

**HP 3000 Computer Systems**

**HP 3000 SERIES 64/68 A/B  
COMPUTER SYSTEMS  
ENGINEERING DIAGRAMS SET**

**FOR HP REPAIR USE ONLY**



19447 PRUNERIDGE AVENUE, CUPERTINO, CA 95014

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LIST OF EFFECTIVE PAGES

The List of Effective Pages gives the date of the current edition, and lists the dates of all changed pages. Unchanged pages are listed as "ORIGINAL". Within the manual, any page changed since the last edition is indicated by printing the date the changes were made on the bottom of the page. Changes are marked with a vertical bar in the margin. If an update is incorporated when an edition is reprinted, these bars and dates remain. No information is incorporated into a reprinting unless it appears as a prior update.

First Edition.....March 1984

Effective Pages	Date
ALL.....	APR 1984

PRINTING HISTORY

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First Edition..... APR 1984

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This manual contains schematic diagrams and assembly drawings for all PC assemblies used in the HP 3000 Series 64/68 A/B Computer System Processor. A cross-reference table of integrated-circuit part numbers is also provided. This document is intended to be used by Hewlett-Packard ASEs, SEs, CEs, and other support personnel for troubleshooting purposes. The manual is divided into four sections which are listed in the table of contents.



INTEGRATED CIRCUIT CROSS  
REFERENCE TABLE

SECTION

I

This section provides cross-reference information for integrated circuits with HP Part Numbers. The HP Part Number will appear at the left side of each column pair with a typical equivalent to the right. In addition, selected vendor abbreviations will appear beneath each typical Part Number. Refer to the appropriate vendor data book for a description and explanation of IC internal circuitry.

The following abbreviations listed below correspond to the vendor name shown immediately to the right.

- AMD

DALE

FAIR

FUJI

HRIS

HITA

INTL

MSTK

MOT

NATL

NEC

RAY

RCA

SIG

TI

ZILG
- Advanced Micro Devices

Dale Electronics

Fairchild Semiconductors

Fujitsu Ltd.

Harris Semiconductor Div., Harris-Intertype

Hitachi

Intel Corp.

Mostek

Motorola

National Semiconductor Corp.

Nippon Electric Corp.

Raytheon Co., Semiconductor Div.

RCA Corp., Solid State Div.

Signetics Corp.

Texas Instruments

Zilog Inc.

Integrated Circuit Cross Reference Table

HP P/N	Typical P/N	HP P/N	Typical P/N
1813-0089	K1100A MOT	1813-0143	K1114AM DALE, MOT
1816-0916	HM7603-5 HRS, SIG	1816-1153	SN91383N TI
1816-1430	MCM10145L MOT	1816-1435	MCM10143L MOT
1816-1456	MCM10149L MOT	1816-1459	HM10470 FUJI, HITA
1816-1460	MBM10415AHC FUJI, NATL	1816-1461	10149F SIG

Integrated Circuit Cross Reference Table (Cont.)

HP P/N	Typical P/N	HP P/N	Typical P/N
1816-1462	HM10422 FUJI, HITA	1816-1469	F100142DC FAIR, HITA
1818-0492	P2114A-4 INTL	1818-0762	TMS2532JL TI, HITA
1818-3006	HM4864P-3 HITA, FUJI	1820-0430	LM309K T03 MOT, NATL
1820-0491	SN74145N TI, NATL	1820-0509	MC1488L FAIR, MOT
1820-0574	8551 TI, NATL	1820-0618	SN7417N TI, SIG
1820-0621	SN7438N TI, FAIR	1820-0629	SN74S112N TI, SIG
1820-0681	SN74S00N FAIR, SIG	1820-0683	SN74S04 TI, FAIR
1820-0685	SN74S10 TI, SIG	1820-0686	SN74S11 TI, SIG
1820-0688	SN74S20 TI, SIG	1820-0689	SN74S22N TI
1820-0691	SN74S64N TI, NATL	1820-0693	SN74S74 TI, FAIR
1820-0694	SN74S86N TI, NATL	1820-0790	MC1660L MOT
1820-0795	MC1664L MOT	1820-0801	MC10101P MOT, SIG
1820-0802	MC10102P MOT, SIG	1820-0803	MC10105P MOT, SIG
1820-0804	MC10106P MOT, SIG	1820-0805	MC10107P MOT, SIG
1820-0806	MC10109P MOT, SIG	1820-0809	MC10115P MOT, SIG
1820-0811	MC10117P MOT, SIG	1820-0815	MC10121P MOT, SIG

Integrated Cross Reference Table (Cont.)

HP P/N	Typical P/N	HP P/N	Typical P/N
1820-0827	MC10161P MOT, SIG	1820-0828	MC10162P MOT, SIG
1820-0920	MC1692L MOT	1820-0990	MC1489AL NATL, MOT
1820-0998	SN74S153N TI, SIG	1820-1015	SN74S158N TI, NATL
1820-1052	MC10125L MOT, SIG	1820-1072	SN74S139NS TI, SIG
1820-1076	SN74S174N TI, SIG	1820-1112	SN74LS74AN MOT, SIG
1820-1130	SN74S133N TI, NATL	1820-1131	DM8160N NATL
1820-1144	SN74LS02N MOT, SIG	1820-1158	SN74S51 TI, SIG
1820-1191	SN74S175N FAIR, SIG	1820-1196	SN74LS174N FUJI, TI
1820-1197	SN74LS00 FUJI, TI	1820-1199	SN74LS04N HITA, FUJI
1820-1200	SN74LS05 HITA, FUJI	1820-1201	SN74LS08N SIG, FAIR
1820-1202	SN74LS10 MOT, HITA	1820-1203	SN74LS11N TI, SIG
1820-1204	SN74LS20N MOT, TI	1820-1205	SN74LS21N SIG, NATL
1820-1206	SN74LS27N HITA, FUJI	1820-1207	SN74LS30N TI, MOT
1820-1208	SN74LS32N SIG, FAIR	1820-1210	SN74LS51N TI, MOT
1820-1211	SN74LS86NS TI, MOT	1820-1216	SN74LS138N HITA, FUJI
1820-1217	SN74LS151N TI, NATL	1820-1224	MC10216P MOT

Integrated Circuit Cross Reference Table (Cont.)

HP P/N	Typical P/N	HP P/N	Typical P/N
1820-1225	MC10231P MOT	1820-1244	SN74LS153N MOT, SIG
1820-1257	SN74159N TI	1820-1272	SN74LS33N MOT, SIG
1820-1275	SN74S260N TI, SIG	1820-1278	SN74LS191 TI, NATL
1820-1281	SN74LS139N HITA, SIG	1820-1285	SN74LS54N NATL, HITA
1820-1301	SN74S257N TI, SIG	1820-1304	SN74S194N TI
1820-1307	SN74S132N TI, FAIR	1820-1322	SN74S02N TI, SIG
1820-1359	MC10174P MOT	1820-1360	N8T09N SIG
1820-1367	SN74S08N TI, NATL	1820-1400	MC10104P MOT
1820-1423	SN74LS123N TI, MOT	1820-1425	SN74LS132N TI, MOT
1820-1427	SN74LS156 TI, NATL	1820-1430	SN74LS161N TI, HITA
1820-1437	MC4015P MOT, TI	1820-1438	SN74LS257N TI, MOT
1820-1439	SN74LS258N TI, MOT	1820-1440	SN74LS279S TI, MOT
1820-1441	SN74LS283N TI, MOT	1820-1445	SN74LS375N TI
1820-1448	SN74S09N TI, NATL	1820-1450	SN74S37N TI
1820-1451	SN74S38N TI, SIG	1820-1470	SN74LS157N MOT, SIG
1820-1473	SN74148N TI	1820-1476	8T96B SIG

Integrated Circuit Cross Reference Table (Cont.)

HP P/N	Typical P/N	HP P/N	Typical P/N
1820-1482	MC10211P MOT	1820-1562	MM74C175N NATL
1820-1624	SN74S241N TI	1820-1633	SN74S240N TI, AMD
1820-1638	SN74S280N TI, NATL	1820-1639	SN74S135N TI
1820-1676	SN74S373N TI	1820-1677	SN74S374N TI
1820-1685	MC10195P MOT	1820-1686	MC10103P MOT
1820-1729	SN74LS259 MOT, FAIR	1820-1730	SN74LS273N TI, SIG
1820-1822	CF1190 SIG	1820-1847	SN74LS138N MOT, SIG
1820-1848	SN74LS04N TI, NATL	1820-1858	SN74LS377N TI, MOT
1820-1897	CD4024BF RCA, MOT	1820-1950	MC10212P MOT
1820-1997	SN74LS374N AMD, NATL	1820-2023	MC10197P MOT
1820-2024	SN74LS244N TI, SIG	1820-2053	SN74LS154N NATL, SIG
1820-2058	MC3448 MOT, AMD	1820-2075	SN74LS245N TI, NATL
1820-2096	SN74LS393 TI, SIG	1820-2121	SN74LS348N TI
1820-2298	Z80A-CPU-4M MSTK, ZILG	1820-2348	MC10805L MOT
1820-2381	MC10166P MOT, FAIR	1820-2401	MC10173P MOT
1820-2402	MC10175P MOT	1820-2420	MC10171P MOT

Integrated Circuit Cross Reference Table (Cont.)

HP P/N	Typical P/N	HP P/N	Typical P/N
1820-2421	MC10163P MOT	1820-2449	MC10165P MOT
1820-2450	MC110189P MOT	1820-2455	MC10172P MOT
1820-2477	MC10170P MOT	1820-2495	MC10210P MOT
1820-2508	MC10113P MOT	1820-2509	F100122DC FAIR, HITA
1820-2510	F100136DC FAIR, HITA	1820-2511	F100163DC FAIR, HITA
1820-2512	F100164DC FAIR, HITA	1820-2513	F100179DC FAIR, HITA
1820-2514	F100181DC FAIR, HITA	1820-2515	F100114DC FAIR, HITA
1820-2517	MC10100P MOT	1820-2522	MC10188P MOT
1820-2588	CD4060B RCA	1820-2594	SN79571N TI
1820-2611	HM100101 FAIR, HITA	1820-2619	2661-1N-A SIG
1820-2648	F100165 FAIR, HITA	1820-2703	SN75174N TI
1820-2821	MC10159P MOT	1820-2847	MC10153P MOT
1820-3124	MC10124P MOT	1820-3125	MC10125P MOT
1820-3126	MC10136P MOT	1820-3127	MC10141P MOT
1820-3128	MC10158P MOT	1820-3129	MC10164P MOT
1820-3130	MC10181P MOT	1820-3338	10H117P MOT

Integrated Circuit Cross Reference Table (Cont.)

HP P/N	Typical P/N	HP P/N	Typical P/N
1826-0065	LM311 NEC, TI	1826-0138	LM339 TI, MOT
1826-0161	LM324N MOT, SIG	1826-0323	HA1-4741 HRIS, RAY
1826-0355	NE555N SIG, NATL	1826-0367	MC78M05 MOT, FAIR
1826-0581	13508 NATL	1826-0750	ADC0801 NATL
1826-0791	LF398N NATL	1826-0792	HA4905 HRIS

<h1>CPU BAY PCA SCHEMATICS AND ASSEMBLY DRAWINGS</h1>	SECTION
	II

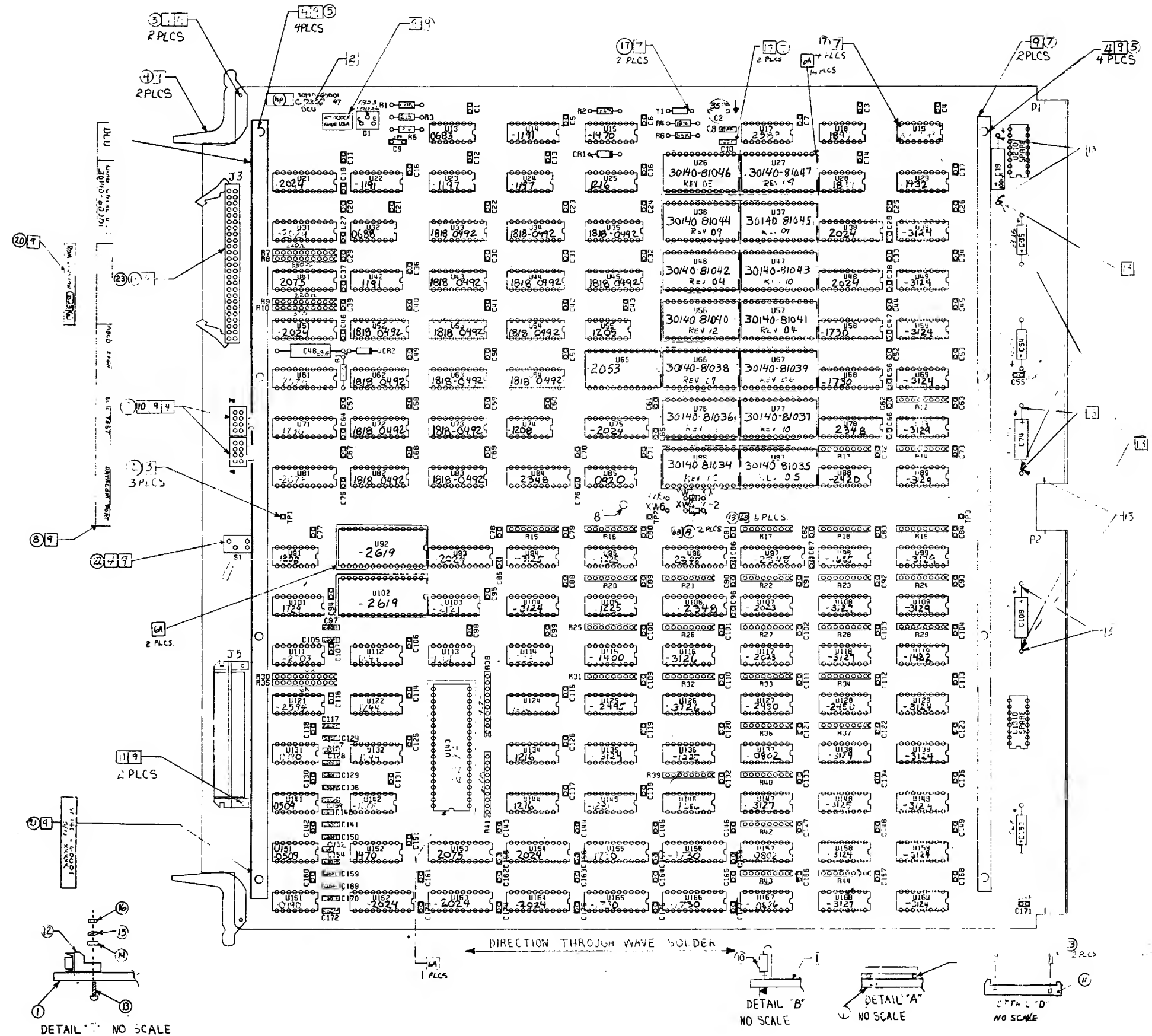
This section provides component location and schematic diagrams for the PCAs located in the CPU card cage of the System Processor Unit. The PCA diagrams appear according to an ascending part number sequence. A listing of this sequence is shown below along with drawing titles and page numbers.

P/N	DWG. TITLE	PAGE
F-30140-60001-7	PCA DCU ASSY. DWG.	2-3
D-30140-60001-51	PCA DCU SCHEMATIC	2-4
-52	"	2-5
-53	"	2-6
-54	"	2-7
D-30140-60001-55	"	2-8
F-30140-60002-7	PCA RALU ASSY. DWG.	2-9
D-30140-60002-51	PCA RALU SCHEMATIC	2-10
-52	"	2-11
-53	"	2-12
-54	"	2-13
-55	"	2-14
-56	"	2-15
D-30140-60002-57	"	2-16
F-30140-60003-7	PCA CIR ASSY. DWG.	2-17
D-30140-60003-51	PCA CIR SCHEMATIC	2-18
-52	"	2-19
-53	"	2-20
D-30140-60003-54	"	2-21
F-30140-60004-1	PCA VBUS ASSY. DWG.	2-22
D-30140-60004-51	PCA VBUS SCHEMATIC	2-23
-52	"	2-24
-53	"	2-25
-54	"	2-26
-55	"	2-27
D-30140-60004-56	"	2-28
F-30140-60005-3	PCA SKSP ASSY. DWG.	2-29
D-30140-60005-51	PCA SKSP SCHEMATIC	2-30
-52	"	2-31
-53	"	2-32
-54	"	2-33
-55	"	2-34
-56	"	2-35
D-30140-60005-57	"	2-36

P/N	DWG. TITLE	PAGE	P/N	DWG. TITLE	PAGE
F-30140-60007-4	PCA CTLA ASSY. DWG.	2-37	F-30140-60013-4	PCA MCS ASSY. DWG.	2-80
D-30140-60007-51	PCA CTLA SCHEMATIC	2-38	D-30140-60013-51	PCA MCS SCHEMATIC	2-81
-52	"	2-39	-52	"	2-82
-53	"	2-40	-53	"	2-83
-54	"	2-41	-54	"	2-84
-55	"	2-42		"	2-85
D-30140-60007-56	"	2-43	D-30140-60013-55	"	2-86
F-30140-60008-4	PCA CTLB ASSY. DWG.	2-44	F-30140-60014-4	PCA MMA ASSY. DWG.	2-87
D-30140-60008-51	PCA CTLB SCHEMATIC	2-45	D-30140-60014-51	PCA MMA SCHEMATIC	2-88
-52	"	2-46	-52	"	2-89
-53	"	2-47	-53	"	2-90
-54	"	2-48	-54	"	2-91
-55	"	2-49	-55	"	2-92
D-30140-60008-56	"	2-50	-56	"	2-93
F-30140-60009-13	PCA CAC ASSY. DWG.	2-51	D-30140-60014-57	"	2-94
D-30140-60009-51	PCA CAC SCHEMATIC	2-52	F-30140-60015-9	PCA IOB ASSY. DWG.	2-95
-52	"	2-53	D-30140-60015-51	PCA IOB SCHEMATIC	2-96
-53	"	2-54	-52	"	2-97
-54	"	2-55	-53	"	2-98
-55	"	2-56	-54	"	2-99
-56	"	2-57	-55	"	2-100
-57	"	2-58	-56	"	2-101
-58	"	2-59	-57	"	2-102
D-30140-60009-59	"	2-60	D-30140-60015-58	"	2-103
F-30140-60010-1	PCA CMA ASSY. DWG.	2-61	D-30140-60018-4	PCA CPU BP ASSY. DWG.	2-104
D-30140-60010-51	PCA CMA SCHEMATIC	2-62	D-30140-60020-1	PCA MEM BP ASSY. DWG.	2-105
-52	"	2-63	F-30140-60026-1	PCA 8K WCS ASSY. DWG.	2-106
-53	"	2-64	D-30140-60026-51	PCA 8K WCS SCHEMATIC	2-107
-54	"	2-65	-52	"	2-108
D-30140-60010-55	"	2-66	D-30140-60026-53	"	2-109
F-30140-60011-4	PCA CBI ASSY. DWG.	2-67	A-30140-60028-1	FCA CBI/IOB/MCS	2-110
D-30140-60011-51	PCA CBI SCHEMATIC	2-68	A-30140-60029-1	FCA CBI/CMA/CAC	2-111
-52	"	2-69	D-30140-60053-2	PCA CPU FP UPR. ASSY. DWG.	
-53	"	2-70	D-30140-60054-2	PCA CPU FP LWR. ASSY. DWG.	
-54	"	2-71			
-55	"	2-72			
-56	"	2-73			
D-30140-60011-57	"	2-74			
F-30140-60012-6	PCA MMC ASSY. DWG.	2-75			
D-30140-60012-51	PCA MMC SCHEMATIC	2-76			
-52	"	2-77			
-53	"	2-78			
D-30140-60012-54	"	2-79			

REV D-55  
A-50 DATE CODE INFO  
D-51 THRU D-55 SCHEM.

PCB NO. 30140-60001-7		REV. 1	
A-50 ISSUED: PER PCO 3886/4		10/1/73	
B-11 WAS 1251-5453-47-8955 185		10/1/73	



- NOTES:
1. UNLESS OTHERWISE SPECIFIED:  
ALL RESISTANCE IN OHMS  
RESISTORS ARE 68 OHMS  
ALL CAPACITANCE IN MICROFARADS  
ALL CAPACITORS ARE .01UF (0160-5352)  
ALL IC'S ARE 1520 -
  2. INSTALL ITEM 24
  3. INSTALL ITEM 23 PLACES
  4. MASK AS INDICATED PRIOR TO LOADING
  5. ALL BOARD LOADING & HANDLING MUST BE DONE AS AN ELECTROSTATIC DISCHARGE PREVENTION MEASURE. WEAR AN ANTI-STATIC STRAP. DISCHARGE ALL TOOLS & EQUIPMENT IN ELECTROSTATIC BAGS.
  6. LOAD SOCKETS AS INDICATED.  
LOAD IC'S IN TOUCH-UP  
LOAD SOCKET XW1-6 IN LOADING. LOAD JUMPER PLUG 1 IN TOUCH-UP
  7. LOAD U19, U15 & C10 USING 1 OF ITEM 17 (WITH A LITTLE BIT OF LITHIUM "A")
  8. USE - PART "A" DURING WAVE SOLDER.
  9. LOAD ITEM 3 THRU 10, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

24	1	LABEL - DATE CODE	9320-5320	
23	2	POLARITY MARK	1251-5515	
22	1	SWITCH TGL DPST M	3101-1675	
21	1	LABEL - SERIAL NUMBER	9320-4648	
20	1	LABEL - ROM VERSION	7120-7635	
19	2	JUMPER PLUG	1251-0124	
18	6	CONN SGL CONT	1251-1556	
17	8	BEADS INDIAN	4330-0145	
16	2	NUT 4-40	2260-0662	
15	2	LOCK WASHER #4	200-0072	
14	2	FLAT WASHER #4	5050-0127	
13	2	SCREW 4-40X.500	2200-0117	
12	1	CONN D PC 37M	1251-7150	
11	1	CONN POST 50M RA	1251-8836	
10	2	LED ARRAY 4 RED SV	1990-0662	
9	1	LABEL - WORK DATE CD	7120-5320	
8	1	LABEL - PCB DCU	7120-5577	
7	2	BRACE	5040-6058	
6	1	SCREW 4-40X.21	0624-0077	
5	2	EXTRACTOR	5040-9804	
4	2	MIN	1132-0112	
3	2	STUD SOLDER TERM	0360-0294	
2	1	PCB DIAG. CTAL UNIT	30140-60001	

PCU-DCU

THE ASSY. DWG.

30140A

SCALE 2:1

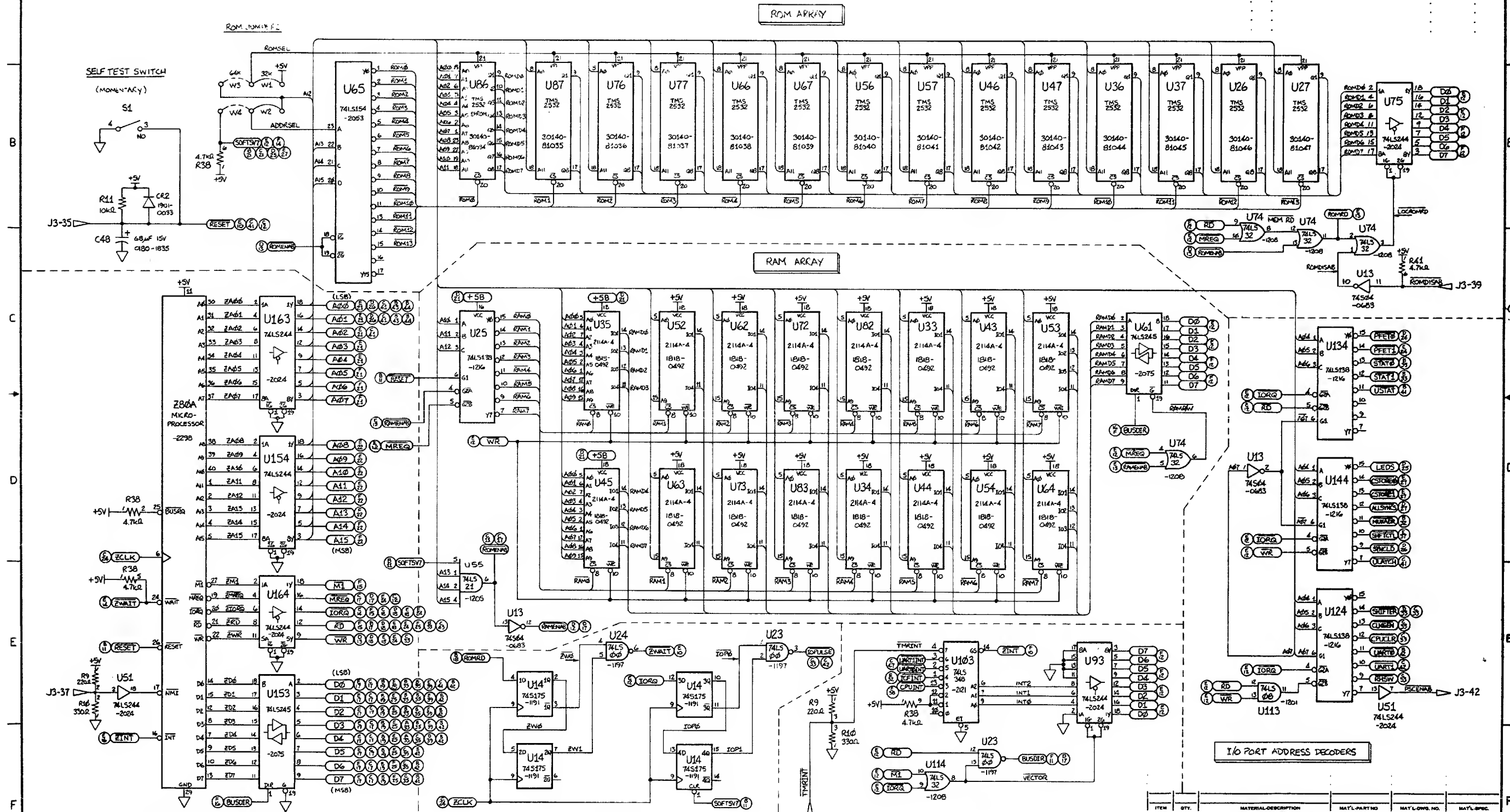
HEWLETT  
PACKARD

30140-6000-7

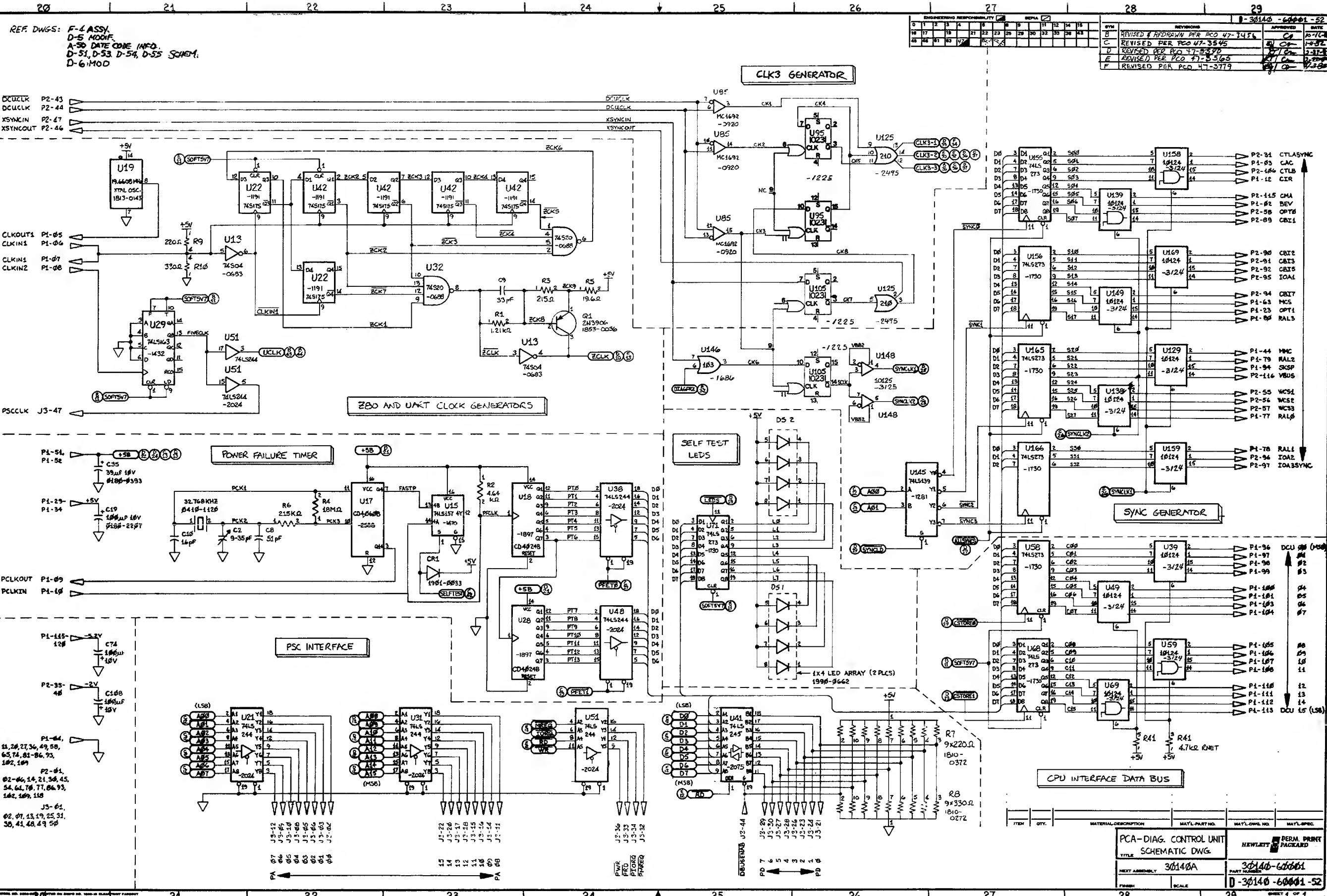
F30140-60007

REF. DWGS: F-4 ASSY.  
D-5 MODIF.  
A-50 DATE CODE INFO.  
D-52, D-53, D-54, D-55 SCHEM.  
D-6

REV	DESCRIPTION	DATE	BY	CHK
1	REVISED & REDRAWN PER PCO 47-3436	10-7-70	CT	CT
2	REVISED PER PCO 47-3390	10-10-70	CT	CT
3	REVISED PER PCO 47-3754	10-10-70	CT	CT
4	REVISED PER PCO 47-3775	10-10-70	CT	CT



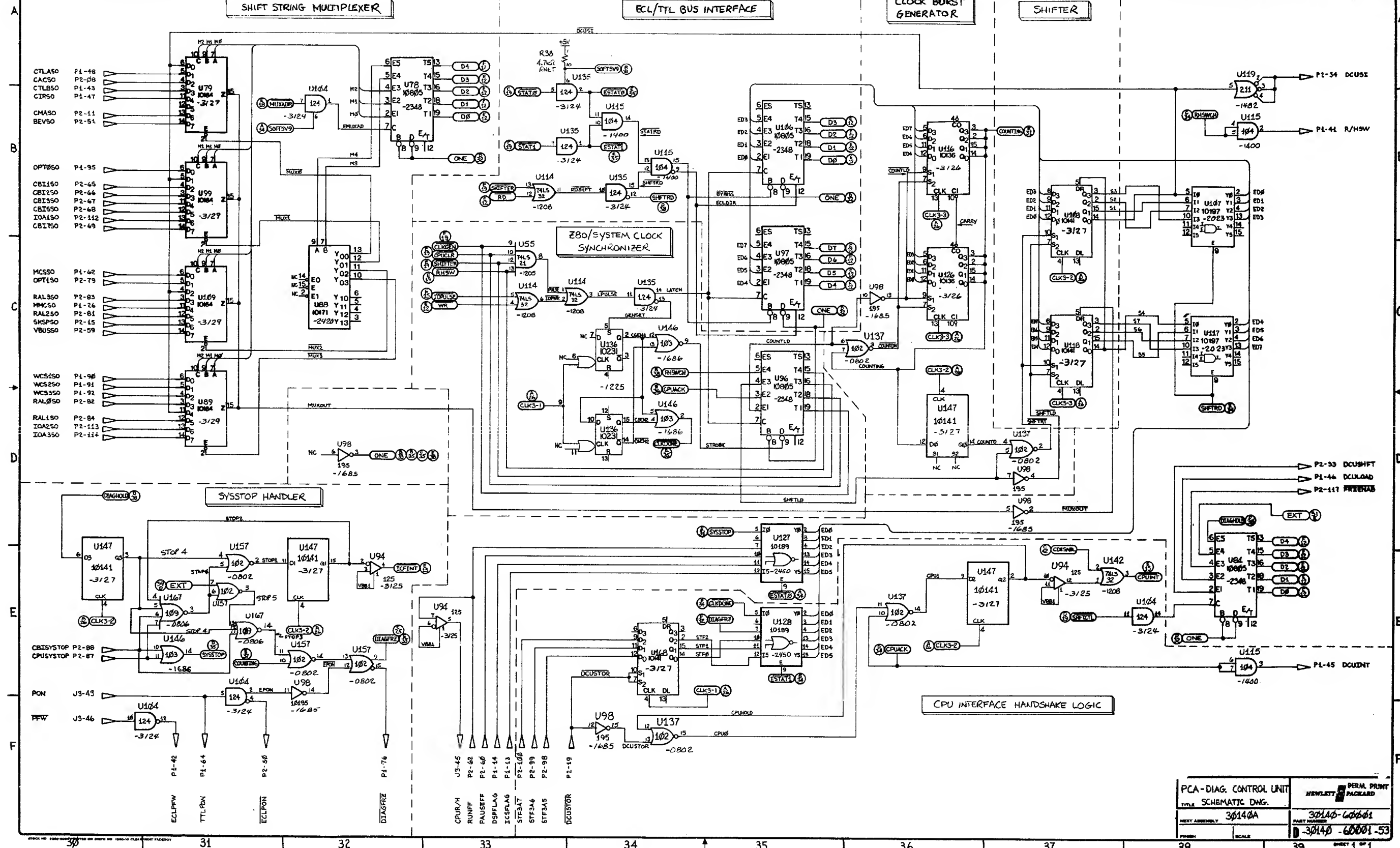




ITEM	QTY.	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L DWG. NO.	MAT'L SPEC.
PCA-DIAG. CONTROL UNIT					
SCHEMATIC DWG.					
TITLE					
30140A					
NEXT ASSEMBLY					
30140B					
PART NUMBER					
D-30140-60001-52					
FINISH					
SCALE					
SHEET 1 OF 1					

REF. DWGS: F-4 ASSY  
D-5 MODIF.  
A-50 DATE CODE INFO.  
D-51, D-52, D-54 D-55 SCHEM.  
D-6 MOD

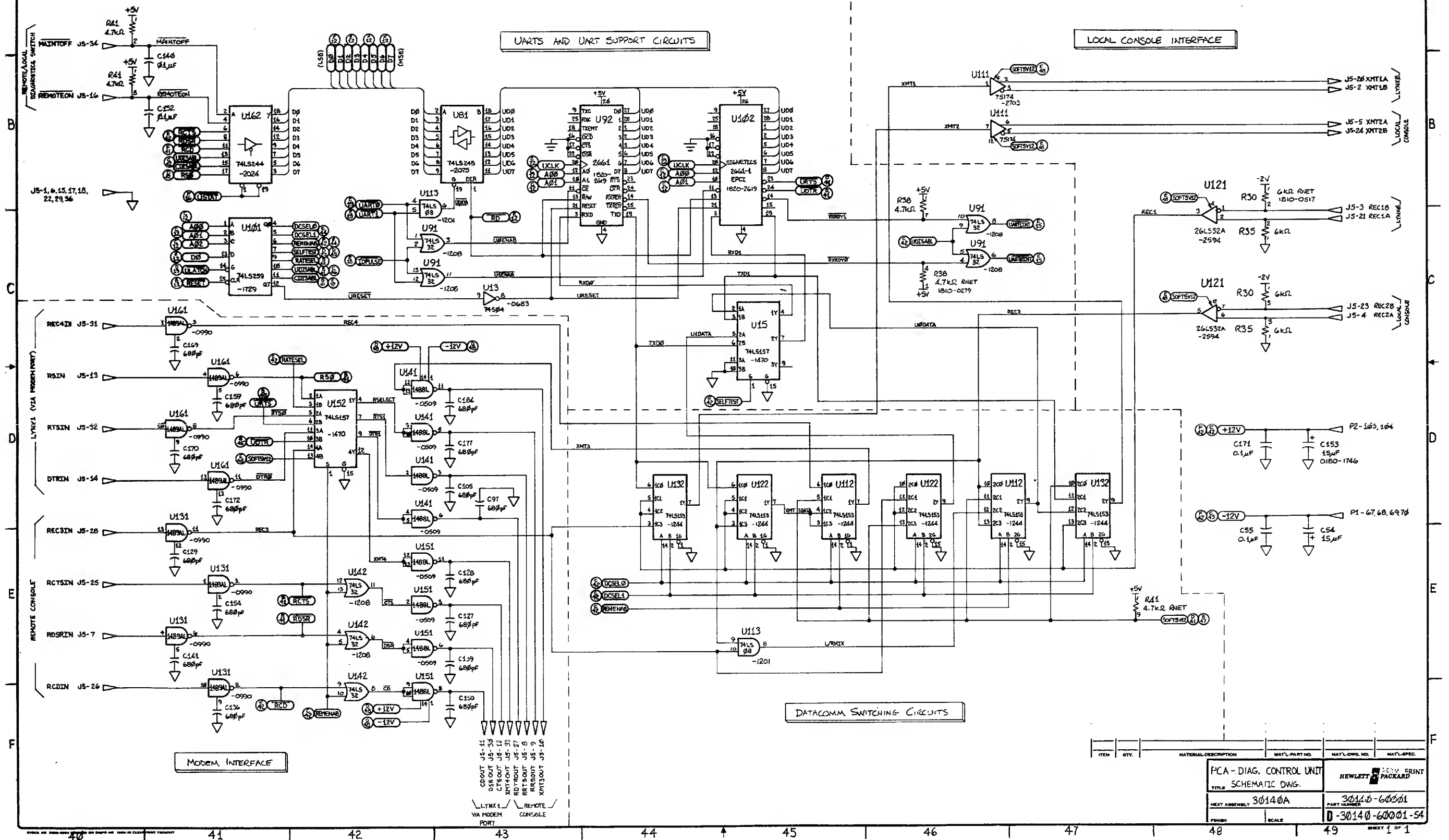
REV	BY	DATE	DESCRIPTION
1			REVISED & REPAIRED PER RCD 47-145
2			REVISED PER RCD 47-359D
3			REVISED PER RCD 47-359S
4			REVISED PER RCD 47-3777



PCA-DIAG. CONTROL UNIT	PERM. PRINT
TYPE SCHEMATIC DWG.	HEWLETT PACKARD
30140A	30140-60001
30140-60001-53	

REF. DWGS: F-4 ASSY.  
D-5 MODIF.  
A-50 DATE CODE INFO.  
D-51, D-52, D-53, D-55 SCHEM.  
D-6 MOD

REV	BY	DATE	DESCRIPTION
1	H	REVISED 1-5-74 PER P20 47-3456	
2	C	REVISED PER RD 47-3617	



REF. DWGS: F-4 ASSY.  
D-5 MODIF.  
A-50 DATE CODE INFO.  
D-51, D-52, D-53, D-54 SCHEM.  
D-6 MOD

DESIGNED BY	DATE	APPROVED BY	DATE
1	1	1	1
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3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
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53	53	53	53
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55	55	55	55
56	56	56	56
57	57	57	57
58	58	58	58
59	59	59	59

### RESISTOR TERMINATIONS

ALL SIGNALS ARE UNTERMINATED EXCEPT AS SHOWN ON SCHEMATIC AND/OR NOTED HERE:

1. THE FOLLOWING SIGNALS ARE TERMINATED AS SHOWN IN FIGURE ①:

SIGNAL NAME	RESISTOR NETWORK REF. DES. (XX) - PIN NO. (Y)	SIGNAL NAME	RESISTOR NETWORK REF. DES. (XX) - PIN NO. (Y)
BEVSO	R14	ESTAT1*	R37
BYPASS*	R17	GENDET	R39
CACSO	R12	ISFLAG	R36
CARRY	R32	IOA1SO	R24
CBI3STOP	R39	IOA2SO	R18
CBI1SO	R19	IOA3SO	R19
CBI2SO	R19	JAY1*	R43
CBI3SO	R24	LATCH	R17
CBI5SO	R19	MCSSO	R24
CBI7SO	R24	MMCSO	R24
CGEN1	R39	MUXOUT	R18
CGEN2	R39	MUXOUT*	R28
CGEN2*	R39	MUX0*	R12
CIRSO	R12	MUX1*	R19
CK1	R31	MUX2*	R24
CK2	R16	MUX3*	R13
CK3	R25	M0	R24
CK4	R31	M1	R29
CK5	R31	M2	R13
CK6	R25	M3	R13
CK7	R31	M4	R21
CK8	R20	ONE	R19
CLKDONE*	R37	OPT0SO	R25
CLK3-1	R44	OPT1SO	R36
CLK3-2	R23	PAUSEFF	R14
CLK3-3	R15	RAL0SO	R19
CMA3SO	R14	RAL1SO	R29
COUNTD	R40	RAL3SO	R25
COUNTD*	R26	RHSWCH	R15
COUNTING	R43	RUNFF	R37
COUNTLD	R36	SCLK	R36
COUNTLD*	R32	SHFTLD	R28
CPUACK	R40	SHFTLD*	R27
CPUHOLD	R15	SHFTRD	R31
CPUSYSTOP	R43	SHFTRD*	R25
CPU0	R40	SKSPSO	R31
CPU1	R42	STATRD*	R37
CTLASO	R12	STF0	R37
CTLB3SO	R16	STF1	R37
DCUCLK	R16	STF2	R37
DCUCLK*	R16	STF3A5	R44
DCUSIF*	R14	STF3A6	R44
DCUSTOR	R40	STF3A7	R44
DCUSTOR*	R44	STFPA	R42
DIAGFRZ	R34	STOP1	R42
DIAGHOLD	R40	STOP2	R15
DR14	R15	STROBE	R21
DSPFLAG	R36	SYSTOP	R35
ECLDIR	R22	S1	R22
ED0	R28	S2	R22
ED1	R28	S3	R27
ED2	R23	S4	R27
ED3	R23	S5	R27
ED4	R32	S6	R27
ED5	R32	S7	R33
ED6	R26	VBUSO	R29
ED7	R26	WCS1SO	R14
EMUXAD	R13	WCS2SO	R14
EPON	R23	WCS3SO	R14
EPON*	R43	WYNIN	R20
ESTAT0*	R36	STOP3	R43
EXT	R42	STOP4	R43
		STOP5	R43

2. THE FOLLOWING SIGNALS ARE TERMINATED AS SHOWN IN FIGURE ②:

SIGNAL NAME	RESISTOR NETWORK REF. DES. (XX) - PIN NO. (Y)
MAINTOFF*	R41
REMOTEON*	R41
ROMDISAB*	R41
RKDY0*	R38
RKDY1*	R38
ST0	R38
ST1	R41
ZWAIT*	R38

3. THE FOLLOWING SIGNALS ARE TERMINATED AS SHOWN IN FIGURE ③:

SIGNAL NAME	RESISTOR NETWORK REF. DES. (XX) - PIN NO. (Y)
REC1B	R30
REC2B	R30

4. THE FOLLOWING SIGNALS ARE TERMINATED AS SHOWN IN FIGURE ④:

SIGNAL NAME	RESISTOR NETWORK REF. DES. (XX) - PIN NO. (Y)
REC1A	R35
REC2A	R35

5. THE FOLLOWING SIGNALS ARE TERMINATED AS SHOWN IN FIGURE ⑤:

SIGNAL NAME	220Ω RESISTOR NETWORK REF. DES. (XX) - PIN NO. (Y)	330Ω RESISTOR NETWORK REF. DES. (XX) - PIN NO. (Y)
CLKEN1	R9	R10
DEUSENAB*	R7	R8
PD0	R7	R8
PD1	R7	R8
PD2	R7	R8
PD3	R7	R8
PD4	R7	R8
PD5	R7	R8
PD6	R7	R8
PD7	R7	R8
PSCINT*	R9	R10
THIRINT*	R9	R10

### POWER SUPPLY BYPASS CAPACITORS

ALL CAPACITORS ARE 0.01μF (0160-5352)

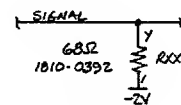
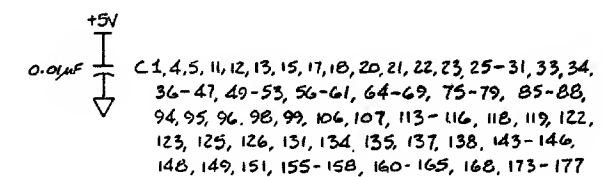
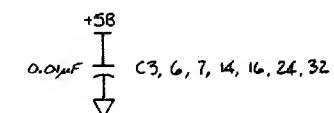
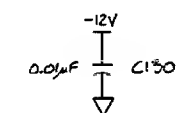
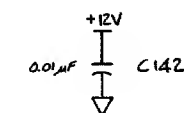
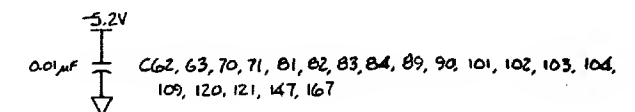
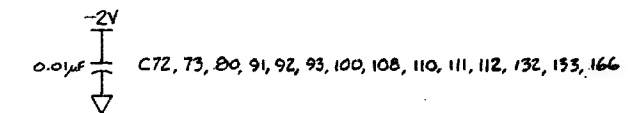


FIGURE ①.

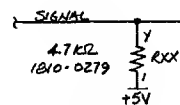


FIGURE ②.

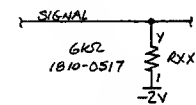


FIGURE ③.

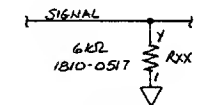


FIGURE ④.

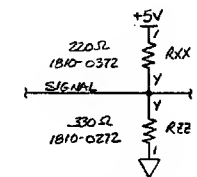


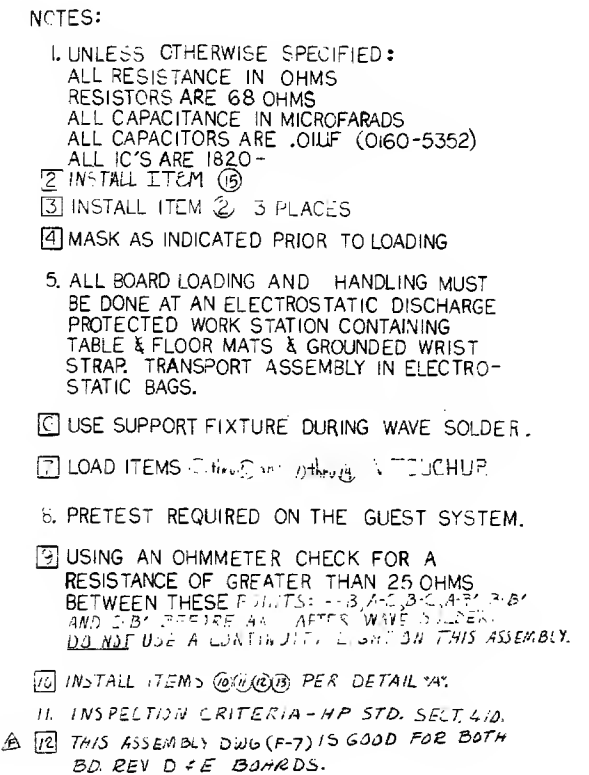
FIGURE ⑤.

ITEM	QTY	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L ORG. NO.	MAT'L SPEC.
PCA - DIAG. CONTROL UNIT					
TITLE		SCHEMATIC DWG.			
NEXT ASSEMBLY		30140A			
FINISH					
SCALE					
PART NO.		30140-60001			
REV.		1			
DATE		1-1-88			


ENGINEERING RESPONSIBILITY															SIGNATURE		DATE	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57

D. REVISED REDRAWN: 47-3565  
 E. REVISED PER PED 47-3119  
 F. REVISED PER PCO 47-3931  
 G. REVISED NOTE: ADD ITEM 15: RPT. 500/47

APPROVED: [Signature] DATE: 10/27/53



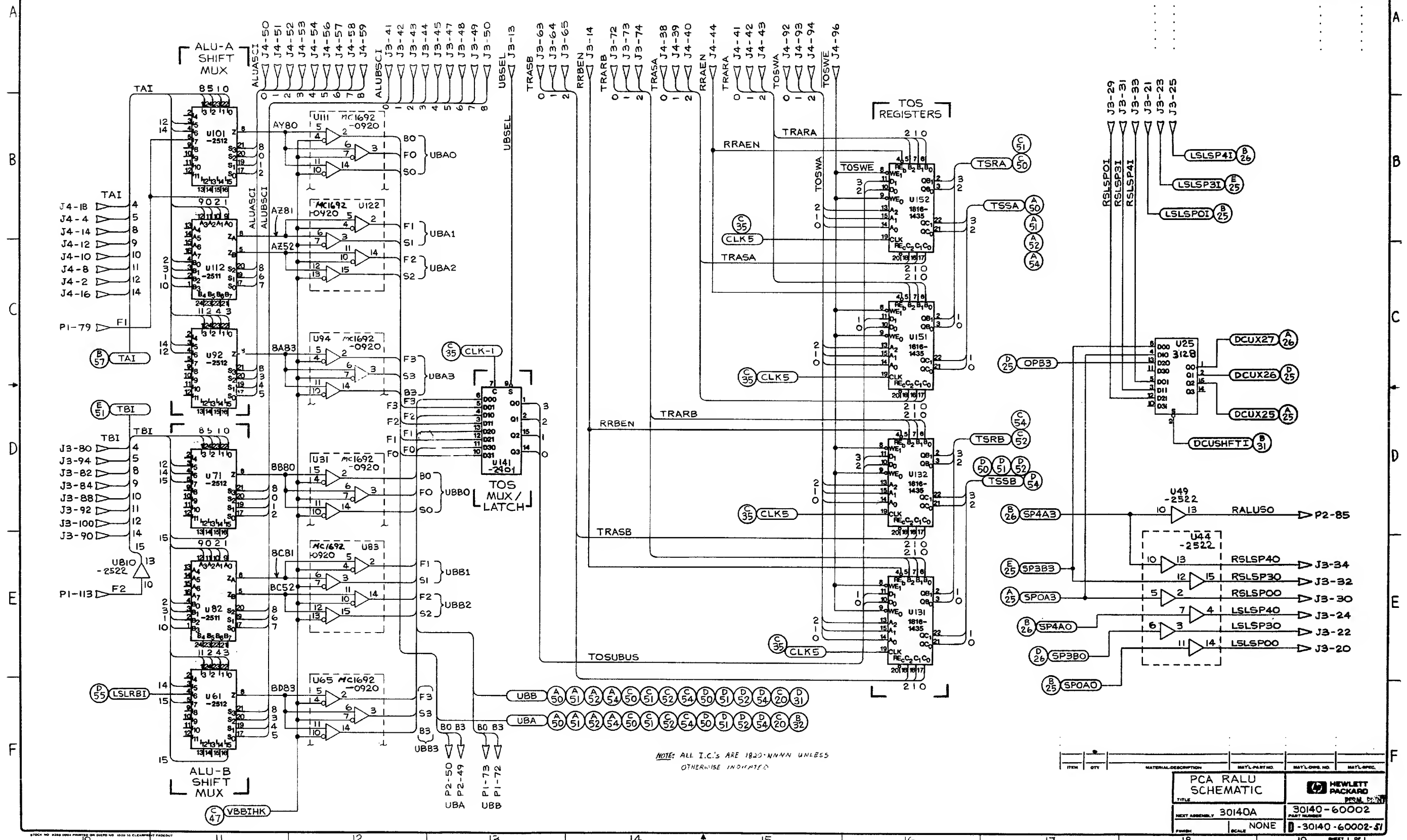
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14	1	LABEL-SERIAL NUMBER	1220-42-3		
13	4	WASHER-FLAT	2190-0479		
12	4	WASHER-LOCK	2190-0045		
11	4	NUT 2-5/8	0610-0001		
10	4	SCREW 2-5/8 X-3/2	0520-0129		
9	1	LBL-WARR DATE CD	7120-6830		
8	1	LABEL-RALU	7121-2112		
7	2	BRACE	5040-6038		
6	1	WASHER			
5	8	SCREW 4-40	0624-0077		
4	2	EXTRACTOR	5010-7804		
3	2	FIN	1480-0116		
2	3	TERM-TEST POINT	0360-0294		
1	1	PCB-RALU	3040-80002		
ITEM	QTY	MATERIAL-DESCRIPTION	MATL. PART NO.	MATL. QTY. REQD.	MATL. SPEC.

PCA-3ALU ASSY DWG		HEWLETT  PACKARD	
TITLE		DATE	
30140A		30140-60002	
NEXT ASSEMBLY		PART NUMBER	
FORM	SCALE	F-30140-60002-7	

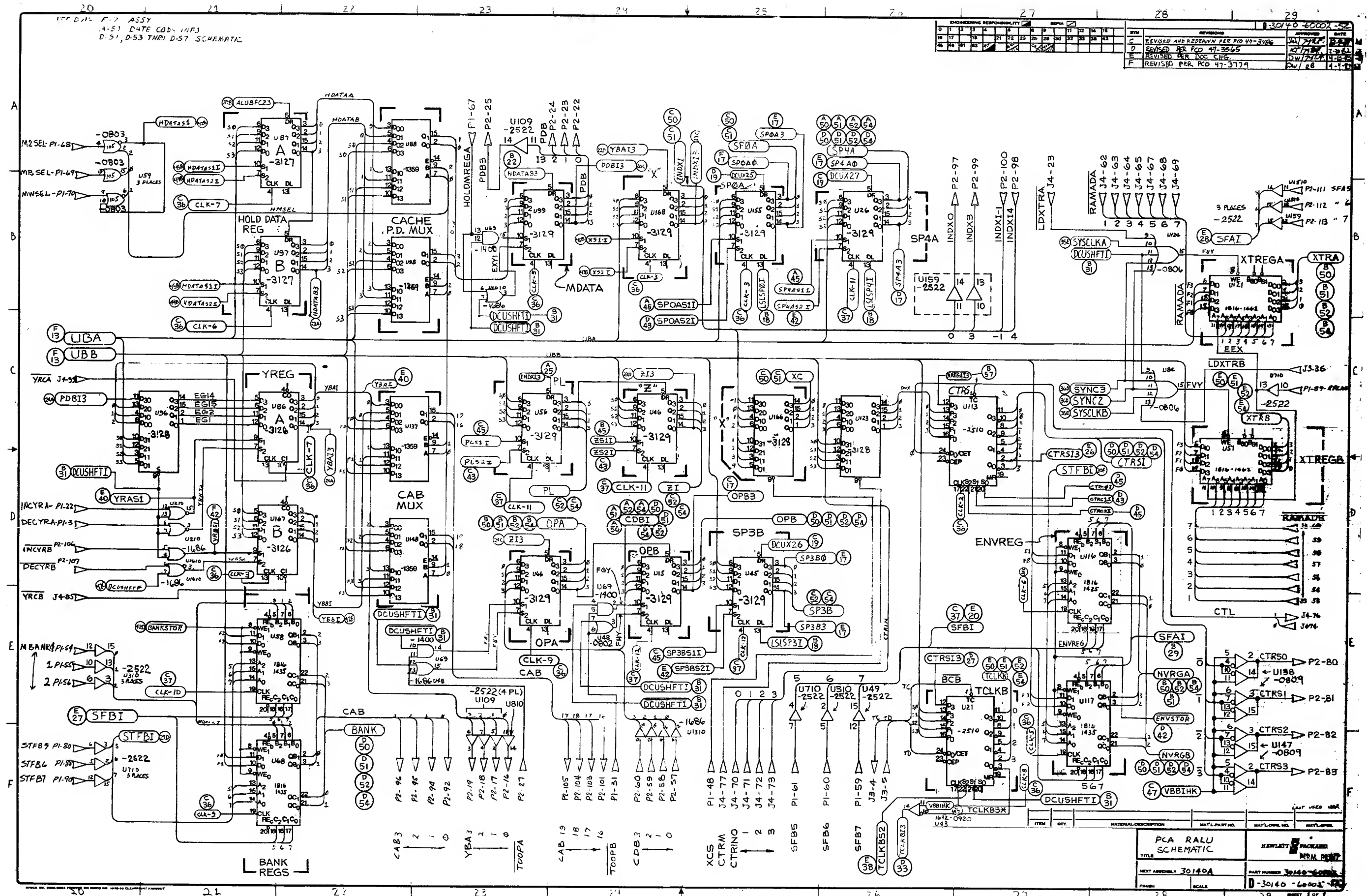
ENGINEERING RESPONSIBILITY																DEPT.								REVISED - F-1			
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16	17	18	19	20	21	22							23	24	25												
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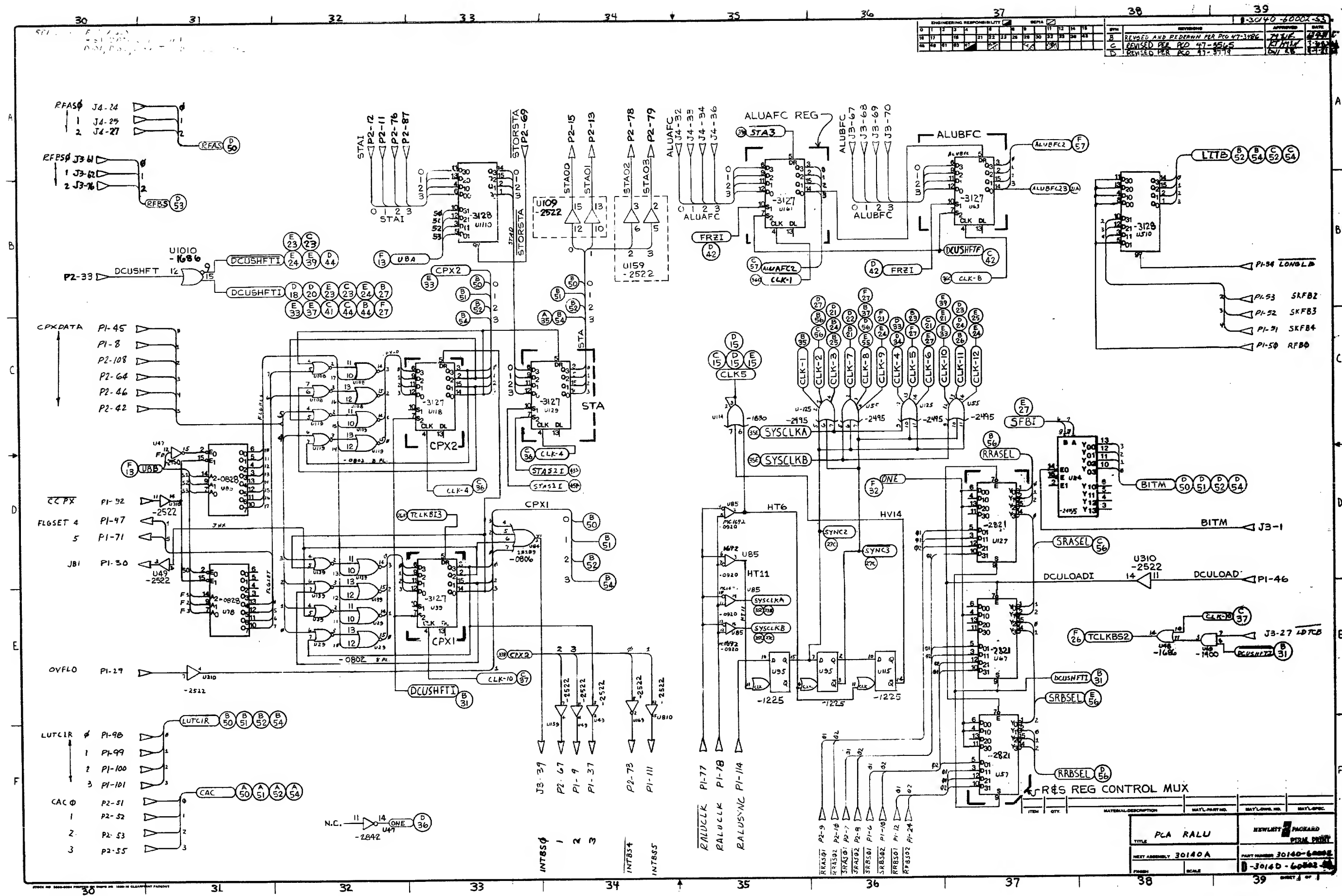
  

STN	REVISIONS	APPROVED	DATE
B	REVISED AND REDRAWN PER PLO 47-336C	[Signature]	12-2-51
C	REVISED PER PLO 47-3365	[Signature]	3-26-52
D	REVISED PER P.O. 47-3779	[Signature]	4-4-53













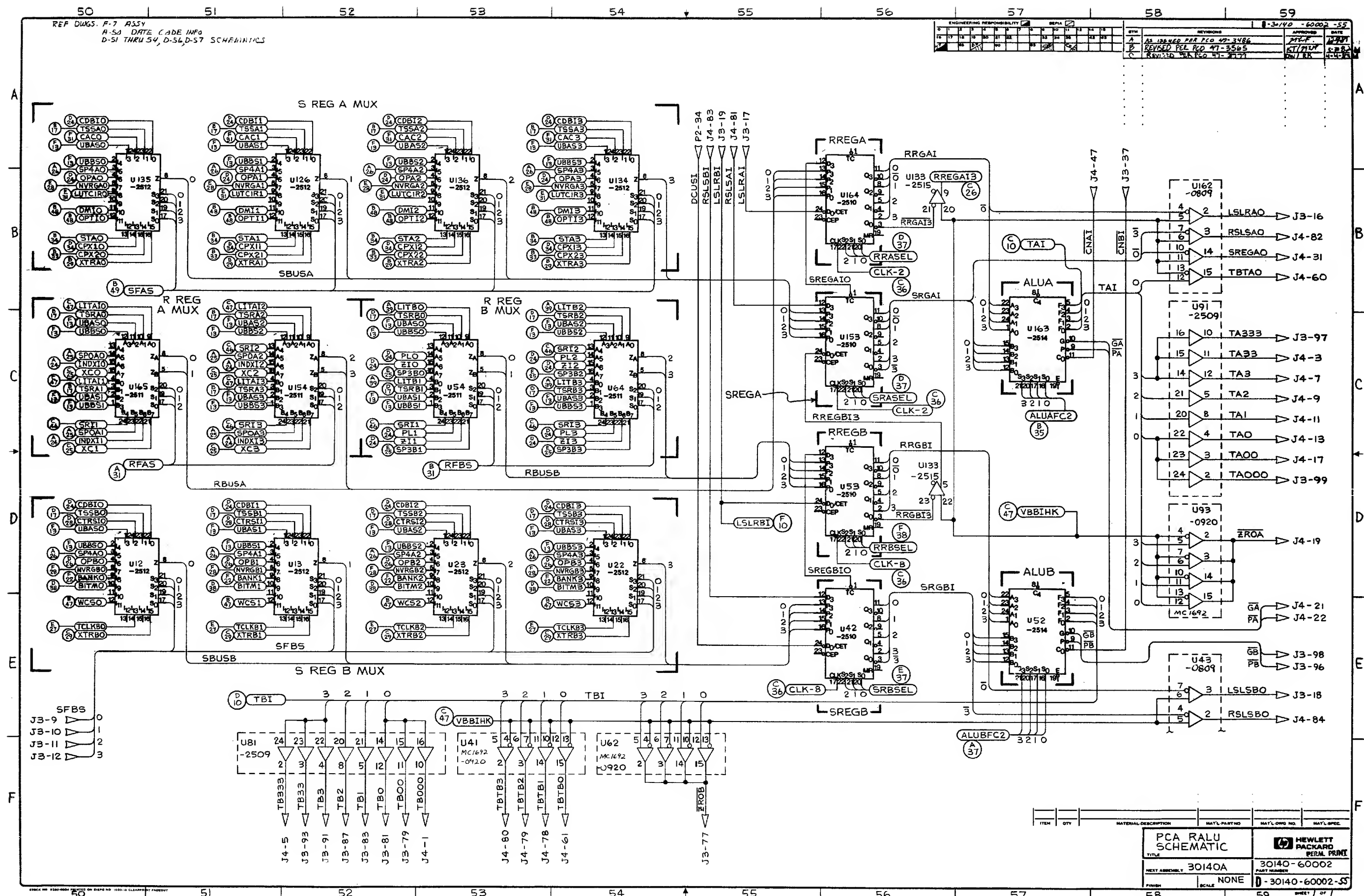


Diagram illustrating the relationship between four sets of data blocks (U42, U53, U153, U164, U113, U21, U39, U39 1, U39 2, U39 3, U118 0, U118 1, U118 2, U118 3, U129, U161, U63, U87, U97, U89, U86, U168, U55, U46, U66, U15, U155, U45, U28) and a central node 4. Arrows point from node 4 to three nodes labeled 3, each with a "SHIFT STRING" label. The data blocks are arranged in a grid-like pattern, with some blocks containing binary data.

1 SIGNAL NAME REFERS TO SIGNALS LINE BEING TERMINATED  
2 BY THE RESPECTIVE RESISTOR. (SEE NOTE 21)  
3 THE ROOM NUMBER LISTED UNDER "PACK" REPRESENTS THE  
REFERENCE DESIGNATOR ASSOCIATED WITH THE RESISTOR  
PACK TERMINATING THE RESPECTIVE SIGNAL NAME. THE  
NUMBER LISTED UNDER "PIN" REPRESENTS THE TERMINATING  
PIN FOR THAT SIGNAL.  
4 THIS TABLE SHOWS THE INTEGRATED CIRCUITS COMPRISING  
EACH SEGMENT OF THE SHIFT STRING. THE NUMBERS FOLLOW-  
ING THE UNDER THE SIGNAL NAME ARE THE BIT NUMBERS  
THE BIT NUMBERS OF THE INTEGRATED CIRCUIT THAT ARE  
PRESENT IN THAT SEGMENT. IF NO BIT NUMBERS ARE GIVEN,  
SUCH AS "0000", THEN ALL OF THE OUTPUT BITS, 0-3, ARE  
PRESENT IN THAT SEGMENT. IF BIT NUMBERS ARE GIVEN  
THAT ARE IN PARENTHESES, SUCH AS "(6)", GIVE THE  
NUMBER OF BITS THAT ARE PRESENT IN THAT SEGMENT OF THE  
SHIFT STRING. THE SEGMENTS WITH NO SUCH NUMBERS HAVE  
A NUMBER OF BITS NOT SPECIFIED. "X" OR "M" SPECIFIES IF  
THE NUMBER OF BITS IN THAT SEGMENT IS REPRESENTED IN A  
HEX OR A BINARY NUMBER.  
5 UNLESS OTHERWISE NOTED, ALL INTEGRATED CIRCUITS IN  
THE SHIFT STRING ARE 7400-0025. BIT 0-PIN 3, BIT  
1-PIN 2, BIT 2-PIN 15, BIT 3-PIN 14.

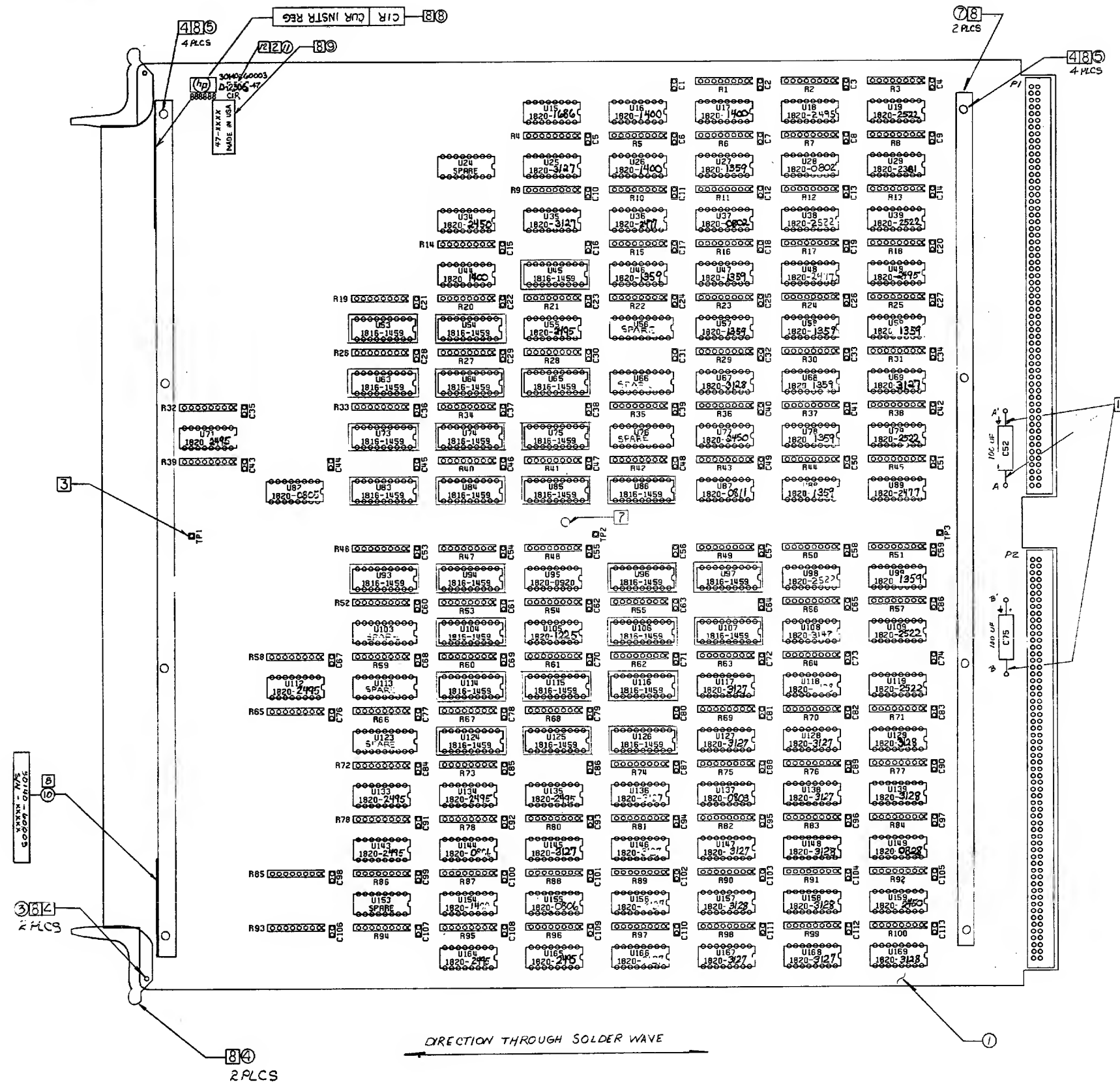
2-15

NOTES:

- 1 SIGNAL NAME REFERS TO SIGNALS LINE BEING TERMINATED BY THE RESPECTIVE RESISTOR. (SEE NOTE 2)
- 2 THE LOOK NUMBER IS THE LOOK NO. WHICH REPRESENTS THE REFERENCE DESIGNATOR ASSOCIATED WITH THE RESISTOR PACK TERMINATING THE RESPECTIVE SIGNAL NAME. THE NUMBER LISTED UNDER "PIN" REPRESENTS THE TERMINATING POINT FOR THAT SIGNAL.
- 3 THIS TABLE SHOWS THE INTEGRATED CIRCUITS COMPOSING EACH SEGMENT OF THE SHIFT STRING. THE NUMBERS FOLLOWING THE LOOK NO., SUCH AS "LOOK 0-1", REPRESENTS THE SET NUMBERS OF THE INTEGRATED CIRCUIT THAT ARE PRESENT IN THAT SEGMENT OF THE SHIFT STRING. IF GIVEN, SUCH AS "LOOK", THEN ALL OF THE OUTPUT BITS, 0-3, ARE PRESENT IN THE SHIFT STRING SEGMENT. THE NUMBERS THAT ARE IN PARENTHESES, SUCH AS "(S)", GIVE THE NUMBER OF BITS THAT ARE PRESENT IN THAT SEGMENT OF THE SHIFT STRING. BEHIND EACH NO. SIGNAL NAME, HAVE THE NUMBER OF SETS THAT WOULD BE EXPECTED. THE "M" OR "B" SPECIFIES IF THE SEGMENT IS REPRESENTED IN A HEX OR A BINARY NUMBER.
- 4 UNLESS OTHERWISE NOTED, ALL INTEGRATED CIRCUITS IN THE SHIFT STRING ARE 1820-0825. SET 0\*PIN 3, SET 1\*PIN 2, SET 2\*PIN 15, SET 3\*PIN 14.

ITEM	QTY	MATERIAL DESCRIPTION	MAT'L PART NO	MAT'L QTY NO	MAT'L SPEC
		PCA RALU SCHEMATIC			
TITLE HEWLETT PACKARD PERM. PRINT			PART NUMBER 30140 60002 0-30140-60002-57		
NEXT ASSEMBLY 30140A			DRAWN BY CHECKED BY APPROVED BY		
FORMER SCALE			REVISIONS 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 		

REF DWGS: D-51, THRU D-54 SCHEMATICS  
A-50 DATE CODE INFO.



# NOTES:

- UNLESS OTHERWISE SPECIFIED:  
ALL RESISTANCE IN OHMS  
RESISTORS ARE 68 OHMS  
ALL CAPACITANCE IN MICROFARADS  
ALL CAPACITORS ARE .01UF(0160-5352)  
ALL IC'S ARE 1820-
- INSTALL ITEM ①
- INSTALL ITEM ② 3 PLACES.
- MASK AS INDICATED PRIOR TO LOADING
- ALL BOARD LOADING & HANDLING MUST BE DONE AT AN ELECTROSTATIC DISCHARGE PROTECTED WORK STATION CONTAINING TABLE & FLOOR MATS & GROUNDED WRIST STRAP. TRANSPORT ASSEMBLY IN ELECTRO-STATIC BAGS.
- LOAD SOCKETS & IC'S IN LOADING
- USE SUPPORT FIXTURE DURING WAVE SOLDER
- LOAD ITEMS ③ thru ⑤ and ⑦ thru ⑩. TOUCH-UP
- PRETEST REQUIRED ON THE GUEST SYSTEM.
- USING AN OHMMETER CHECK FOR A RESISTANCE OF GREATER THAN 25 OHMS BETWEEN THESE POINTS:  
A-A', B-B', A-B, BEFORE AND AFTER WAVE SOLDER.
- INSPECTION CRITERIA - HP STD SECT 4.0
- THIS ASSEMBLY DWG, F-7, CAN BE USED FOR 30140-60003-7

REV	DESCRIPTION	DATE	BY
1	REVISED PER 30140-60003-7	7/7/71	7/7/71
2	REVISED PER 30140-60003-7	7/7/71	7/7/71
3	REVISED PER 30140-60003-7	7/7/71	7/7/71
4	REVISED PER 30140-60003-7	7/7/71	7/7/71
5	REVISED PER 30140-60003-7	7/7/71	7/7/71

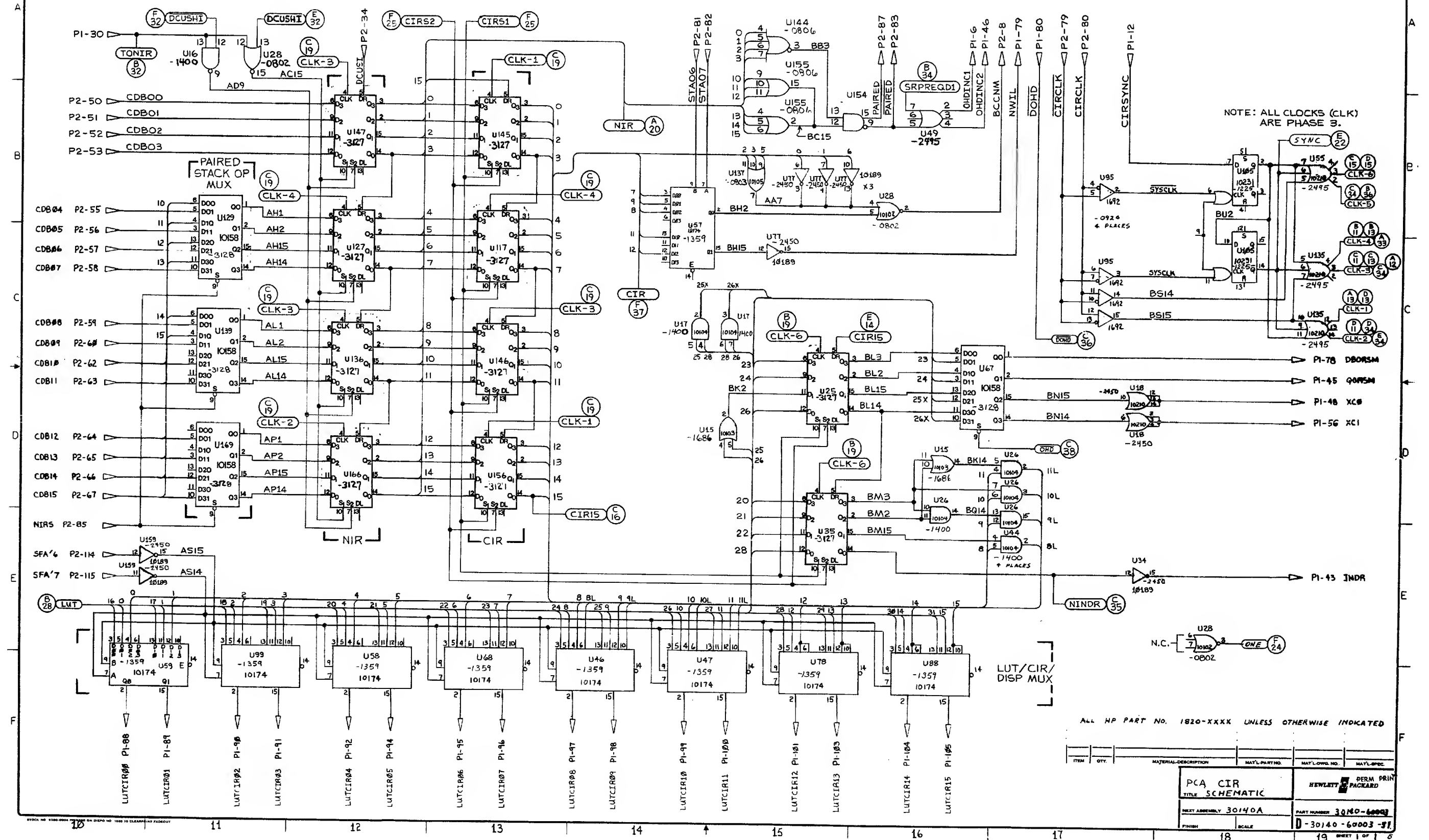
ITEM	QTY	DESCRIPTION	DATE	BY
1	1	PCA-CIR	7/7/71	7/7/71
2	1	ASSY. DWG.	7/7/71	7/7/71
3	1	30140-60003-7	7/7/71	7/7/71
4	1	30140-60003-7	7/7/71	7/7/71
5	1	30140-60003-7	7/7/71	7/7/71

REV	DESCRIPTION	DATE	BY
1	REVISED PER 30140-60003-7	7/7/71	7/7/71
2	REVISED PER 30140-60003-7	7/7/71	7/7/71
3	REVISED PER 30140-60003-7	7/7/71	7/7/71
4	REVISED PER 30140-60003-7	7/7/71	7/7/71
5	REVISED PER 30140-60003-7	7/7/71	7/7/71



REF DWGS: F-4 ASSY  
D-5 MODIF  
D-6 MODIF  
A-50 DATE CODE NIR  
D-52 THRU D-54 SCHEMATIC

ENGINEERING RESPONSIBILITY												REVISIONS												APPROVED												DATE																							
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53						
												B												REVISED AND REDRAWN PER PLO 47-3509												M.L.F.												12-6-71											
												C												REVISED PER PLO 47-3565												K.T.H.												4-17-72											
												D												REVISED PER PLO 47-3779												C.W.												4-14-73											









REF DWG F-4 ASSY  
D-5 MODIF  
D-6 MODIF  
A-50 DATE CODE INFO  
D-51 THRU D-53, SCHEMATIC

ENGINEERING RESPONSIBILITY																REVISED		APPROVED		DATE	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61

1

2

SIGNAL	PACK	PIN	SIGNAL	PACK	PIN	SIGNAL	PACK	PIN	SIGNAL	PACK	PIN	SIGNAL	PACK	PIN	SIGNAL	PACK	PIN
AA7	R12	4	CB011	R77	8	FM11	R36	8	LED08	R92	8	LUT9	R45	3	YBA113	R59	2
AC14	R31	8	CB012	R100	5	FM12	R49	4	LED09	R93	7	LUT9	R76	5	YBA114	R66	2
AC15	R97	8	CB013	R100	3	FM13	R20	7	LED10	R94	8	LUT9	R12	8	YBA115	R73	8
AD9	R97	6	CB014	R100	4	FM13	R43	3	LED11	R93	2	LUT9	R100	7	YBA116	R34	2
AE14	R43	4	CB015	R100	6	FM14	R49	3	LED12	R94	6	LUT9	R6	7	YBA117	R47	2
AE2	R43	6	CIRCLK	R48	3	FM15	R11	4	LED13	R94	5	LUT9	R86	7	YBA118	R53	2
AE2	R69	7	CIRCLK*	R48	3	FM16	R11	6	LED14	R94	5	LUT9	R78	6	YBA119	R60	2
AH14	R75	5	CIRSTWC	R54	7	FRZ1	R5	2	LED15	R100	2	LUT9	R96	8	YBA120	R68	8
AH15	R75	6	CIRSTWC	R69	6	LAD1	R42	8	LPE1	R31	6	LUT9	R96	7	YBA121	R73	2
AH2	R75	8	CIRSTWC	R62	8	LAD2	R21	8	LPE2	R31	6	LUT9	R96	6	YBA122	R19	5
AL1	R74	6	CIR10	R25	4	LAD3	R19	3	LPE3	R31	6	LUT9	R96	4	YBA123	R83	2
AL14	R81	6	CIR10	R31	5	LAD4	R40	2	LUTPES1	R38	7	LUT9	R96	5			
AL15	R81	6	CIR10	R5	6	LAD5	R20	2	LUTPES2	R38	7	LUT9	R96	5			
AL2	R74	8	CIR10L	R16	7	LAD6	R19	2	LUTS770*	R84	2	LUT9	R96	5			
AP14	R97	4	CIR11	R5	4	LAD7	R19	2	LUTWE11	R63	3	LUT9	R96	5			
AP15	R97	3	CIR11L	R16	8	LAD8	R48	5	LUTWE12	R63	3	LUT9	R96	5			
AP2	R97	7	CIR12	R29	5	LAD9	R27	2	LUTWE13	R63	3	LUT9	R96	5			
AS14	R15	6	CIR14	R44	5	LAD10	R26	2	LUTWE21	R40	3	LUT9	R96	5			
AS15	R22	8	CIR15	R43	2	LAD11	R26	3	LUTWE22	R67	3	LUT9	R96	5			
B03	R87	4	CIR2	R4	5	LAD12	R26	4	LUTWE23	R72	3	LUT9	R96	5			
BC15	R95	4	CIR3	R51	4	LAD13	R41	2	LUT10	R8	6	LUT9	R96	5			
BH15	R43	5	CIR4	R57	5	LAD14	R27	3	LUT11	R45	4	LUT9	R96	5			
BH2	R7	5	CIR5	R30	5	LAD15	R48	4	LUT12	R45	4	LUT9	R96	5			
BK14	R5	5	CIR6	R43	7	LAD16	R27	4	LUT13	R45	4	LUT9	R96	5			
BK2	R9	6	CIR7	R35	2	LAD17	R19	4	LUT14	R45	4	LUT9	R96	5			
BL14	R36	6	CIR8	R14	5	LAD18	R41	5	LUT15	R45	4	LUT9	R96	5			
BL15	R36	4	CIR8L	R22	6	LAD19	R20	5	LUT16	R44	4	LUT9	R96	5			
BL2	R29	4	CIR9	R10	5	LAD20	R26	5	LUT17	R13	7	LUT9	R96	5			
BL3	R29	6	CIR9L	R22	7	LAD21	R41	4	LUT18	R8	4	LUT9	R96	5			
BM15	R14	4	CLK-1	R89	3	LAD22	R19	6	LUT19	R18	5	LUT9	R96	5			
BH2	R4	7	CLK-2	R99	4	LAD23	R19	6	LUT20	R3	5	LUT9	R96	5			
BH5	R4	6	CLK-3	R76	3	LAD24	R41	3	LUT21	R24	3	LUT9	R96	5			
BN0V	R13	2	CLK-4	R76	4	LAD25	R27	7	LUT22	R30	4	LUT9	R96	5			
BN14	R2	6	CLK-5	R56	3	LAD26	R19	7	LUT23	R30	3	LUT9	R96	5			
BN15	R7	7	CLK-6	R4	4	LAD27	R41	8	LUT24	R37	4	LUT9	R96	5			
BO14	R10	4	DCUSHL	R16	6	LAD28	R27	8	LUT25	R29	3	LUT9	R96	5			
BR9	R98	3	OCUSHL*	R20	4	LAD29	R26	8	LUT26	R1	5	LUT9	R96	5			
BS14	R21	7	DESRO	R13	4	LAD30	R41	7	LUT27	R36	5	LUT9	R96	5			
BS15	R80	7	DESRI	R8	7	LAD31	R27	5	LUT28	R15	7	LUT9	R96	5			
BU2	R28	8	DESRI	R13	5	LAD32	R26	7	LUT29	R29	7	LUT9	R96	5			
CB00D	R82	6	DSHOPRF	R36	6	LAD33	R41	6	LUT30	R23	4	LUT9	R96	5			
CB001	R90	8	DSHOPRF	R76	8	LAD34	R27	6	LUT31	R15	4	LUT9	R96	5			
CB002	R82	5	DU15	R12	5	LAD35	R26	6	LUT32	R8	5	LUT9	R96	5			
CB003	R82	8	DU15	R24	4	LAD36	R92	2	LUT33	R44	3	LUT9	R96	5			
CB004	R71	5	DU15	R24	5	LAD37	R85	6	LUT34	R50	7	LUT9	R96	5			
CB005	R71	3	DU15	R15	3	LAD38	R85	6	LUT35	R12	7	LUT9	R96	5			
CB006	R71	6	DU15	R6	4	LAD39	R85	6	LUT36	R17	7	LUT9	R96	5			
CB007	R77	7	DU15	R31	7	LAD40	R85	6	LUT37	R12	6	LUT9	R96	5			
CB008	R77	4	FB14	R98	7	LAD41	R85	6	LUT38	R17	6	LUT9	R96	5			
CB009	R77	3	FB2	R39	8	LAD42	R85	6	LUT39	R17	6	LUT9	R96	5			
CB010	R77	5	FB3	R32	7	LAD43	R85	6	LUT40	R17	5	LUT9	R96	5			

GN0 C1-2, C2-2, C3-2, C4-2, C5-2, C6-2, C7-2, C8-2, C9-2, C10-2, C11-2, C12-2, C13-2, C14-2, C15-2, C16-2, C17-2, C18-2, C19-2, C20-2, C21-2, C22-2, C23-2, C24-2, C25-2, C26-2, C27-2, C28-2, C29-2, C30-2, C31-2, C32-2, C33-2, C34-2, C35-2, C36-2, C37-2, C38-2, C39-2, C40-2, C41-2, C42-2, C43-2, C44-2, C45-2, C46-2, C47-2, C48-2, C49-2, C50-2, C51-2, C52-2, C53-2, C54-2, C55-2, C56-2, C57-2, C58-2, C59-2, C60-2, C61-2, C62-2, C63-2, C64-2, C65-2, C66-2, C67-2, C68-2, C69-2, C70-2, C71-2, C72-2, C73-2, C74-2, C75-2, C76-2, C77-2, C78-2, C79-2, C80-2, C81-2, C82-2, C83-2, C84-2, C85-2, C86-2, C87-2, C88-2, C89-2, C90-2, C91-2, C92-2, C93-2, C94-2, C95-2, C96-2, C97-2, C98-2, C99-2, C100-2, C101-2, C102-2, C103-2, C104-2, C105-2, C106-2, C107-2, C108-2, C109-2, C110-2, C111-2, C112-2, C113-2,

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TP1-1, TP2-1, TP3-1,

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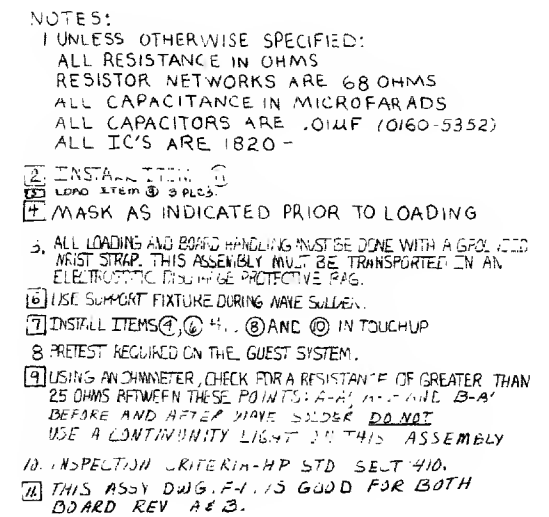
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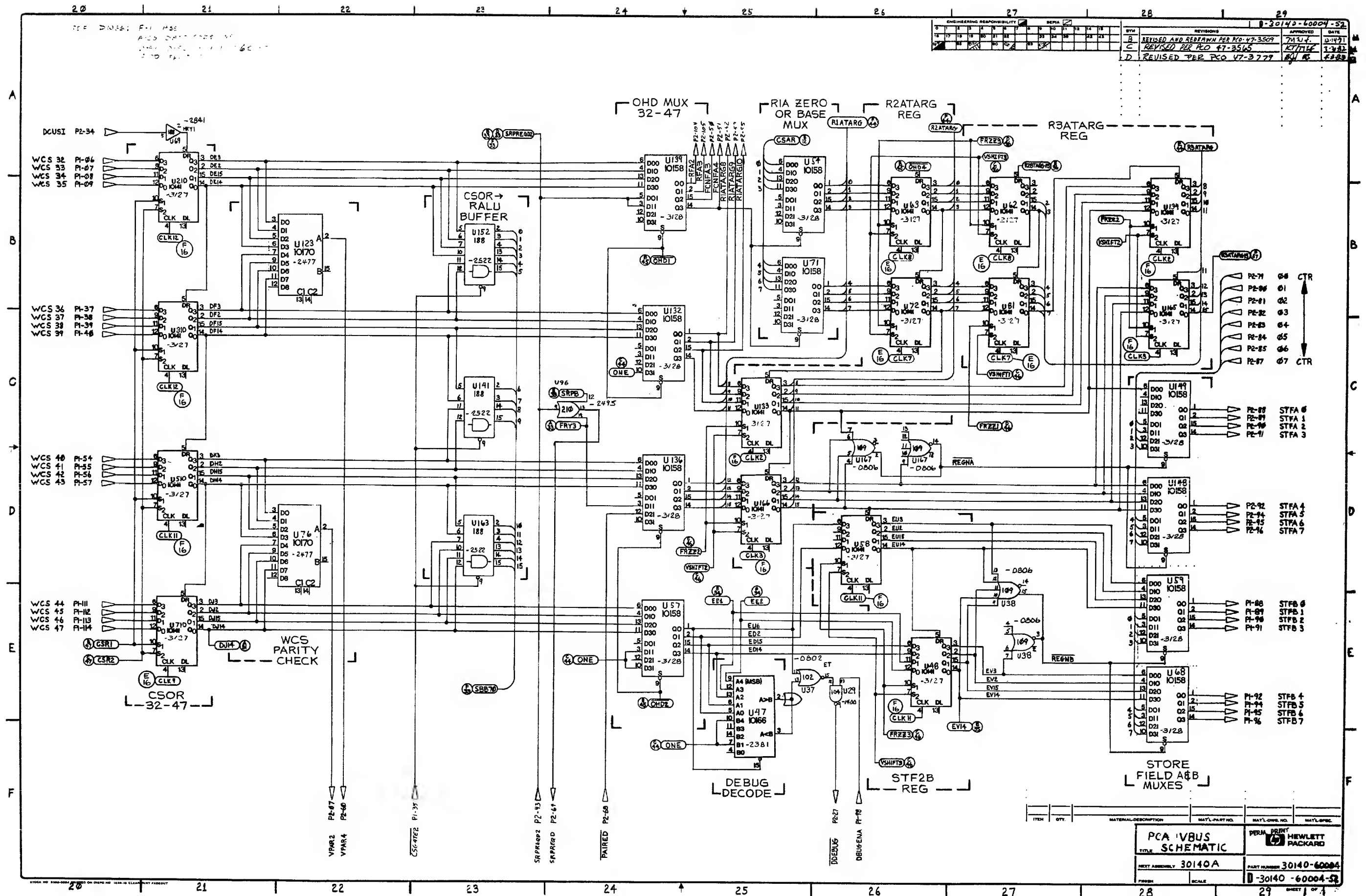
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10	1	LBL - SERIAL NUMBER	9320-4849		
4	3	TERM - TEST POINT	9360-0294		
8	1	LBL-VYARR DATE CD	7120-6830		
7	1	LABEL VBUS	7121-2123		
6	2	BRACE	5040-6058		
		D:stg3			
4	8	SCREW 4-40	0624-0077		
3	2	EXTRACTOR	5040-9804		
2	2	PIN	1480-0116		
1	1	PCB-VBUS	30140-80804		

DATE RECEIVED	DATE PART NO	DATE QTY NO	DATE SPEC
PCA - VBUS TITLE ASSY. DWG.		HEWLETT  PACKARD 1. 1.000	
30140A		30140-60004	
NEXT ASSEMBLY	PART NUMBER		
F30140	SCALE	F30140-60004-1	











59									
30140-60004-55									
APPROVED DATE									
77 LK 3-M81									

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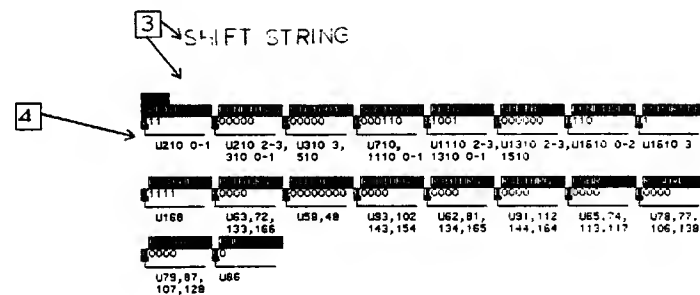
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# NOTES:

- 1 SIGNAL NAME REFERS TO SIGNALS LINE BEING TERMINATED BY THE RESPECTIVE RESISTOR. (SEE NOTE 2)
- 2 THE ROOM NUMBER LISTED UNDER "ROOM" REPRESENTS THE REFERENCE DESIGNATOR ASSOCIATED WITH THE RESISTOR. PROX TERMINATING THE RESPECTIVE SIGNAL NAME. THE NUMBER LISTED UNDER "PIN" REPRESENTS THE TERMINATING PIN FOR THAT SIGNAL.
- 3 THIS TABLE SHOWS THE INTEGRATED CIRCUITS COMPRISING EACH SEGMENT OF THE SHIFT STRING. THE NUMBERS FOLLOWING THE ROOM NO., SUCH AS "LOOK 0-1", REPRESENTS THE BIT NUMBERS OF THE INTEGRATED CIRCUIT THAT ARE PRESENT IN THAT SEGMENT. IF NO BIT NUMBERS ARE GIVEN, SUCH AS "LOOK", THEN ALL OF THE OUTPUT BITS, 0-3, ARE PRESENT IN THE SHIFT STRING SEGMENT. THE NUMBERS THAT ARE IN PARENTHESES, SUCH AS "(8)", GIVE THE NUMBER OF BITS THAT ARE PRESENT IN THAT SEGMENT OF THE SHIFT STRING. THE SEGMENTS WITH NO SUCH NUMBERS HAVE THE NUMBER OF BITS THAT WOULD BE EXPECTED. THE "M" OR "B" SPECIFIES IF THE SEGMENT IS REPRESENTED IN A HEX OR A BINARY NUMBER.
- 4 UNLESS OTHERWISE NOTED, ALL INTEGRATED CIRCUITS IN THE SHIFT STRING ARE 1820-0825. BIT 0=PIN 3, BIT 1=PIN 2, BIT 2=PIN 15, BIT 3=PIN 14.
- 5 ALL IC ARE 1820-XXXX UNLESS OTHERWISE SPECIFIED



ITEM	QTY	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L QTY NO.	MAT'L SPEC.
PCA VBUS SCHEMATIC					
NEXT ASSEMBLY 30140A			PART NUMBER 30140-60004		
FINISH			SCALE		
0-30140 -60004 -55			SHEET 1 OF 1		

1

2

#	SIGNAL	PACK	PIN	#	SIGNAL	PACK	PIN	#	SIGNAL	PACK	PIN	#	SIGNAL	PACK	PIN	#	SIGNAL	PACK	PIN	#	SIGNAL	PACK	PIN	#	SIGNAL	PACK	PIN
1	AM2	R41	R	58	CLK12	R83	4	113	OK1	R99	7	172	OHND*	R88	8	229	R15C	R111	R	286	R3ATARG4	R57	4	343	WC539	R7	5
2	AM2?	R32	0	59	CLKP	R21	3	116	OK12	R99	8	173	OHND*	R88	8	230	R3ATARG6	R111	R	287	R3ATARG5	R57	4	344	WC540	R20	7
3	AM4	R41	2	60	CLK3	R117	0	117	OK13	R99	0	174	PA1*ED*	R95	4	231	R3ATARG1	R88	0	288	R3ATARG6	R48	0	345	WC541	R28	0
4	AM7	R32	6	61	CLK4	R100	3	118	DL2	R90	7	175	POPR	R45	6	232	R2ATARG10	R94	3	289	R3ATARG7	R83	7	346	WC542	R2R	6
5	AK14	R94	8	62	CLK5	R73	2	119	DL3	R99	4	176	PSHR	R54	5	233	R2ATARG11	R98	6	290	R3ATARG8	R83	5	347	WC543	R20	5
6	AK14	R94	8	63	CLK6	R94	4	120	DM2	R99	2	177	RAC0	R36	4	234	R2ATARG12	R97	6	291	R3ATARG9	R84	5	348	WC544	R37	7
7	AK15	R24	R	64	CLR7	R47	4	121	DM3	R99	3	178	RAC1	R36	8	235	R2ATARG13	R97	8	292	R3ATARG10	R84	5	349	WC545	R37	8
8	AK2	R24	R	65	CLR8	R21	4	122	DM4	R115	6	179	RAC2	R74	7	236	R2ATARG14	R106	4	293	R3ATARG11	R103	6	350	WC546	R37	9
9	AK3	R68	3	66	CLR9	R21	2	123	DM15	R74	8	180	RAC3	R69	6	237	R2ATARG15	R12	5	294	R3ATARG12	R184	6	351	WC547	R37	5
10	AP1*	R15	7	67	CSARS1	R78	3	124	ED14	R11	0	181	RANUXR	R53	7	238	R2ATARG16	R30	6	295	R3ATARG13	R96	6	352	WC548	R64	2
11	AP3	R15	4	68	CSAPS2	R70	3	125	ED15	R12	4	182	RANUXC	R62	4	239	R2ATARG17	R34	6	296	R3ATARG14	R113	6	353	WC549	R73	0
12	AS*	R70	7	69	CSAP0	R6	7	126	ED2	R18	7	183	RANUXC	R62	4	240	R2ATARG18	R34	6	297	R3ATARG15	R113	6	354	WC550	R73	4
13	AS20	R72	2	70	CSAP1	R12	7	127	EF1	R14	7	184	RAP11	R112	4	241	R2ATARG19	R34	7	298	R3ATARG16	R113	6	355	WC551	R73	3
14	AS3	R75	6	71	CSAP1	R12	7	128	LE2	R18	4	185	RAP12	R104	4	242	R2ATARG20	R38	6	299	R3ATARG17	R58	3	356	WC552	R99	2
15	AS6	R67	6	72	CSAP11	R72	7	129	LE3	R65	5	186	RAP13	R96	4	243	R2ATARG21	R82	5	300	R3ATARG18	R57	3	357	WC553	R89	8
16	AS7	R75	8	73	CSAP12	R86	6	130	ES14	R65	7	187	RAP14	R104	3	244	R2ATARG22	R83	2	301	R3ATARG19	R49	3	358	WC554	R89	6
17	RC2	R70	7	74	CSAP13	R86	4	131	ES15	R65	4	188	RAP15	R114	4	245	R2ATARG23	R87	3	302	R3ATARG20	R48	3	359	WC555	R89	5
18	RC7	R70	2	75	CSAP14	R72	2	132	EC2	R65	3	189	RAP16	R32	2	246	R2ATARG24	R47	6	303	R3ATARG21	R48	3	360	WC556	R108	7
19	RC6	R70	6	76	CSAP15	R75	6	133	ELSE10	R103	5	190	RAP17	R41	5	247	R2ATARG25	R56	8	304	R3ATARG22	R83	6	361	WC557	R108	6
20	RC7	R70	8	77	CSAR2	R13	4	134	ELSE11	R112	3	191	RAR4	R43	5	248	R2ATARG26	R94	4	305	R3ATARG23	R77	6	362	WC558	R108	6
21	RJY1*	R43	7	78	CSAP3	R13	6	135	ELSE12	R95	3	192	RAR5	R48	3	249	R2ATARG27	R103	0	306	R3SAVE0	R46	6	363	WC559	R108	5
22	RHT1*	R43	8	79	CSAP4	R65	6	136	ELSE13	R105	3	193	RAR6	R59	7	250	R2ATARG28	R95	6	307	R3SAVE1	R55	7	364	WC560	R117	5
23	HL15	R42	2	80	CSAP5	R44	R	137	ELSE14	R104	2	194	RAS1	R56	5	251	R3ATARG29	R94	6	308	R3SAVE2	R55	6	365	WC561	R117	4
24	BL2	R42	6	81	CSAP6	R65	2	138	ELSE15	R114	3	195	RAR8	R83	4	252	R2ATARG30	R113	2	309	R3SAVE11	R07	8	366	WC562	R117	6
25	BM1*	R42	5	82	CSAR7	R63	3	139	ELSE2	R23	6	196	RAR9	R84	4	253	R2ATARG31	R21	5	310	R3SAVE12	R71	6	367	WC563	R100	4
26	BP2	R51	6	83	CSAP8	R63	5	140	ELSE3	R41	7	197	REGNA*	R107	8	254	R2ATARG32	R55	5	311	R3SAVE13	R79	7	368	WC564	R42	4
27	BR15	R59	4	84	CSAP9	R62	2	141	ELSE4	R48	6	198	REGNB*	R35	8	255	R2ATARG33	R56	5	312	R3SAVE14	R72	6	369	WC565	WE1NR	5
28	BR2	R59	5	85	CSGATL2*	R99	R	142	ELSE5	R23	7	199	R3ATARG34	R56	7	256	R3ATARG34	R56	7	313	R3SAVE15	R72	6	370	WC566		
29	RF1*	R68	5	86	CSGATE3*	R99	R	143	ELSE6	R39	5	200	RIATARG0	R22	2	257	R3ATARG35	R49	7	314	R3SAVE2	R55	6				
30	RP2	R68	6	87	CSR1	R117	7	144	ELSE7	R5R	6	201	RIATARG1	R31	8	258	R3ATARG36	R48	7	315	R3SAVE3	R44	5				
31	UC1*	R76	5	88	CSR2	R117	4	145	ELSE8	R83	3	202	RIATARG11	R112	8	259	R3ATARG37	R92	5	316	R3SAVE4	R53	6				
32	HC	R76	4	89	CTRD0	R19	5	146	ELSE9	R84	3	203	RIATARG12	R113	5	260	R3ATARG38	R76	4	317	R3SAVE5	R62	7				
33	BP15	R76	7	90	CTRD1	R19	3	147	ELSE10	R84	3	204	RIATARG13	R113	5	261	R3ATARG39	R76	4	318	R3SAVE6	R55	6				
34	BP2	R76	6	91	CTRD2	R19	3	148	ELSE11	R6	6	205	RIATARG14	R113	7	262	R3SAVE0	R46	4	319	R3SAVE7	R63	7				
35	BS1*	R69	4	92	CTRD3	R2R	7	149	EU1*	R12	5	206	RIATARG15	R114	5	263	R3SAVE1	R55	5	320	R3SAVE8	R63	6				
36	BS2	R69	5	93	CTRD4	R27	8	150	LU15	R28	4	207	RIATARG2	R22	6	264	R3SAVE10	R64	4	321	R3SAVE9	R63	8				
37	BT1*	R78	5	94	CTPD*	R35	3	151	EU2	R19	4	208	RIATARG3	R21	6	265	R3SAVE11	R87	2	322	SRPR	R116	4				
38	BT2	R78	6	95	CTPD*	R35	5	152	EU3	R19	4	209	RIATARG4	R21	6	266	R3SAVE12	R87	2	323	SRPR	R116	4				
39	CIRVBU00	R6	5	96	CTPD*	R35	7	153	EU6	R11	5	210	RIATARG5	R40	4	267	R3SAVE13	R79	4	324	VBUSCLK	R51	5				
40	CIRVBU01	R6	3	97	CRUCENA	R6	2	154	EV1*	R49	5	211	RIATARG6	R39	4	268	R3SAVE14	R72	4	325	VBUSCLK*	R60	4				
41	CIRVBU02	R6	4	98	DCUSHTT1	R1	6	155	EV15	R35	4	212	RIATARG7	R58	4	269	R3SAVE15	R36	5	326	VBSYSTHC	R60	5				
42	CIRVBU03	R13	7	99	DCUSHTT1*	R25	4	156	EV2	R27	4	213	R18TARG0	R49	6	270	R3SAVE2	R55	3	327	VSEL*	R76	R				
43	CIRVBU04	R13	5	100	CE14	R109	7	157	LV13	R21	6	214	R18TARG1	R49	6	271	R3SAVE3	R55	3	328	VSEL*	R76	R				
44	CIRVBU05	R31	3	101	DE15	R109	7	158	FRY3	R26	5	215	R18TARG10	R100	6	272	R3SAVE4	R53	4	329	VSELB	R83	8				
45	CIRVBU06	R40	5	102	DE2	R100	5	159	FR2	R19	2	216	R18TARG11	R100	8	273	R3SAVE5	R62	5	330	VSELB*	R67	8				
46	CIRVBU07	R70	7	103	DF3	R109	4	160	FRZ1	R52	7	217	R1PTARG0	R101	5	274	R3SAVE6	R54	4	331	VSEL*	R75	3				
47	CIRVBU08	R48	4	104	DF14	R90	6	161	FRZ21	R47	7	218	R18TARG13	R181	8	275	R3SAVE7	R61	5	332	VSEL*	R67	7				
48	CIRVBU09	R45	2	105	DF15	R90	5	162	FRZ22	R101	4	219	R18TARG14	R181	6	276	R3SAVE8	R61	5	333	VSHFTT1	R30	8				
49	CIRVBU10	R85	5	106	DF16	R109	6	163	FRZ23	R109	8	220	R18TARG15	R110	3	277	R3SAVE9	R71	5	334	VSHFTT2	R15	8				
50	CIRVBU11	R85	7	107	DF3	R109	6	164	HAY1	R52	6	221	R18TARG2	R110	3	278	R3ATARG18	R41	3	279	R3ATARG18	R112	5	336	WC532	R3	6
51	CIRVBU12	R86	7	180	OH14	R110	6	165	HKV1	R3	5	222	R18TARG3	R41	3	279	R3ATARG18	R112	5	336	WC532	R3	6				
52	CIRVBU13	R86	6	109	OH15	R110	5	166	HLV1*	R19	6	223	R18TARG4	R48	3	280	R3ATARG12	R95	5	337	WC533	R3	7				
53	CIRVBU14	R96	5	118	OH2	R94	5	167	LORR	R45	8	224	R18TARG5	R48	0	281	R3ATARG13	R96	5	338	WC534	R3	8				
54	CIRVBU15	R96	7	111	DJ1	R110	2	168	LORR*	R45	8	225	R18TARG6	R48	0	282	R3ATARG14	R96	5	339	WC535	R3	9				
55	CLK1	R49	2	112	DJ15	R110	4	169	OHND1C2	R88	8	226	R18TARG7	R5R	2	283	R3ATARG15	R97	5	340	WC536	R3	4				
56	CLK10	R34	4	113	DJ2	R110	8	170	OHND1*	R91	8	227	R18TARG8	R81	7	284	R3ATARG2	R32	4	341	WC537	R7	8				
57	CLK11	R20	4	114	DJ3	R118	7	171	OHND2*	R26	8	228	R18TARG9	R92	8	285	R3ATARG3	R58	4	342	WC538	R7	6				

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**NOTES:**

- 1 SIGNAL NAME REFERS TO SIGNAL LINE BEING TERMINATED BY  
2 THE RESPECTIVE RESISTOR. (SEE NOTE 2)  
3 THE NUMBER LISTED UNDER "PIN#" REPRESENTS THE  
4 TERMINAL RESISTOR ASSOCIATED WITH THE RESISTOR  
5 TERMINATING THE RESPECTIVE SIGNAL NAME. THE  
6 NUMBER LISTED UNDER "PIN#" REPRESENTS THE TERMINATING  
7 PIN FOR THAT SIGNAL.  
8 THE TABLE SHOWS THE INTEGRATED CIRCUITS COMPRISING  
9 EACH SEGMENT OF THE SHIFT STRING. THE NUMBERS FOLLOWING  
10 THE LOOK NO., SUCH AS "LOOK D-1", REPRESENTS  
11 THE BIT NUMBERS OF THE INTEGRATED CIRCUIT THAT ARE  
12 PRESENT IN THAT SEGMENT. 1 AND 16 BIT NUMBERS ARE GIVEN,  
13 "LOOK", "D-1", BECAUSE THE INPUT BEING USED IS ONE  
14 PRESENT IN THE SHIFT STRING SEGMENT. THE NUMBERS  
15 THAT ARE IN PARENTHESES, SUCH AS "(8)", GIVE THE  
16 NUMBER OF BITS THAT ARE PRESENT IN THAT SEGMENT OF  
17 THE SHIFT STRING. THE NUMBER IN SUCH CASES MAY HAVE  
18 THE NUMBER OF BITS THAT WOULD BE EXPECTED. THE "4"  
19 OR "8" SPECIFICS IF THE SEGMENT IS REPRESENTED IN A  
20 HEX OR BINARY NUMBER.  
21 ALL OTHERS ARE SPECIFIED IN ALL INTEGRATED CIRCUITS IN  
22 THE SHIFT STRING ARE 1620-0825. BIT 0=PIN 3, BIT  
23 1=PIN 2, BIT 2=PIN 15, BIT 3=PIN 14.

SHIFT STRING

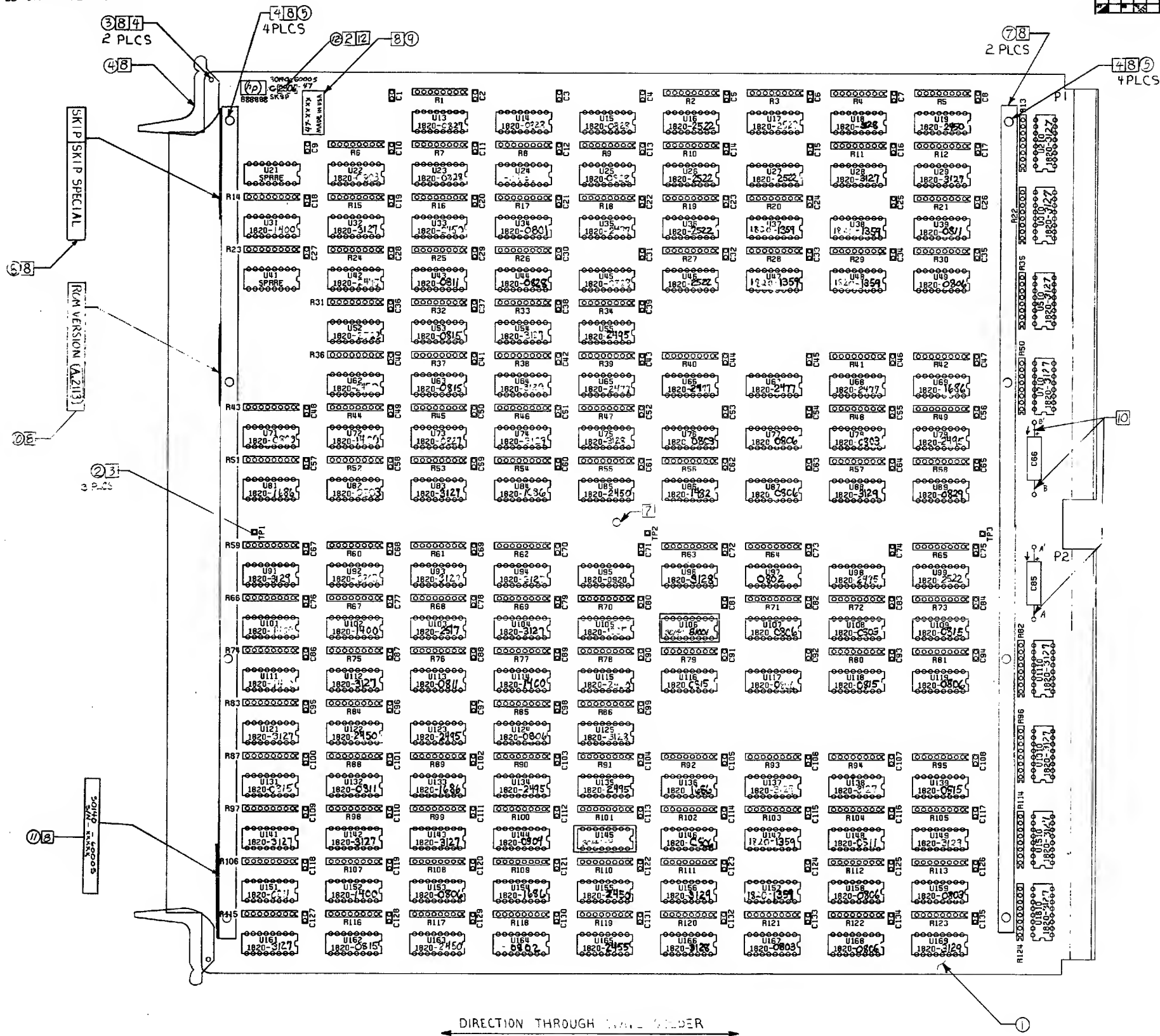
U101, 1	U102, 111	U103, 122	U104, 131	U105, 140	U106, 149	U107, 158	U108, 167	U109, 176
U210 0-1	U210 2-3, 310 0-1	U310 3, 510	U710, 1110 0-1	U1110 2-3, 1310 0-1	U1310 2-3, 1510	U1510 0-2	U1610 3	
U111, 4	U112, 5	U113, 6	U114, 7	U115, 8	U116, 9	U117, 10	U118, 11	U119, 12
U16R	U53, 72, 133, 165	U5R, 48	U53, 102, 143, 154	U62, 81, 134, 165	U91, 112, 144, 164	U65, 74, 113, 117	U79, 77, 108, 138	
U79, 87, 107, 12R	U88							

ITEM	QTY.	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L SHWS. NO.	MAT'L SPEC.
		PCA-VBUS SCHEMATIC		PERM.  HEWLETT PACKARD	
		TITLE	3014CA	30140-60004	
		EXT. ASSEMBLY	PART NUMBER	0-30140-60004-56	
		FINISH	SCALE		



REF DRAWINGS: D-51 THRU D-57, SCHEMATICS  
D-50 DATE CODE INFO.

F-30140-60005-3			
REVISED PER PCD 47-3515	REVISED PER PCD 47-3515	REVISED PER PCD 47-3515	REVISED PER PCD 47-3515
REVISED PER PCD 47-3515	REVISED PER PCD 47-3515	REVISED PER PCD 47-3515	REVISED PER PCD 47-3515
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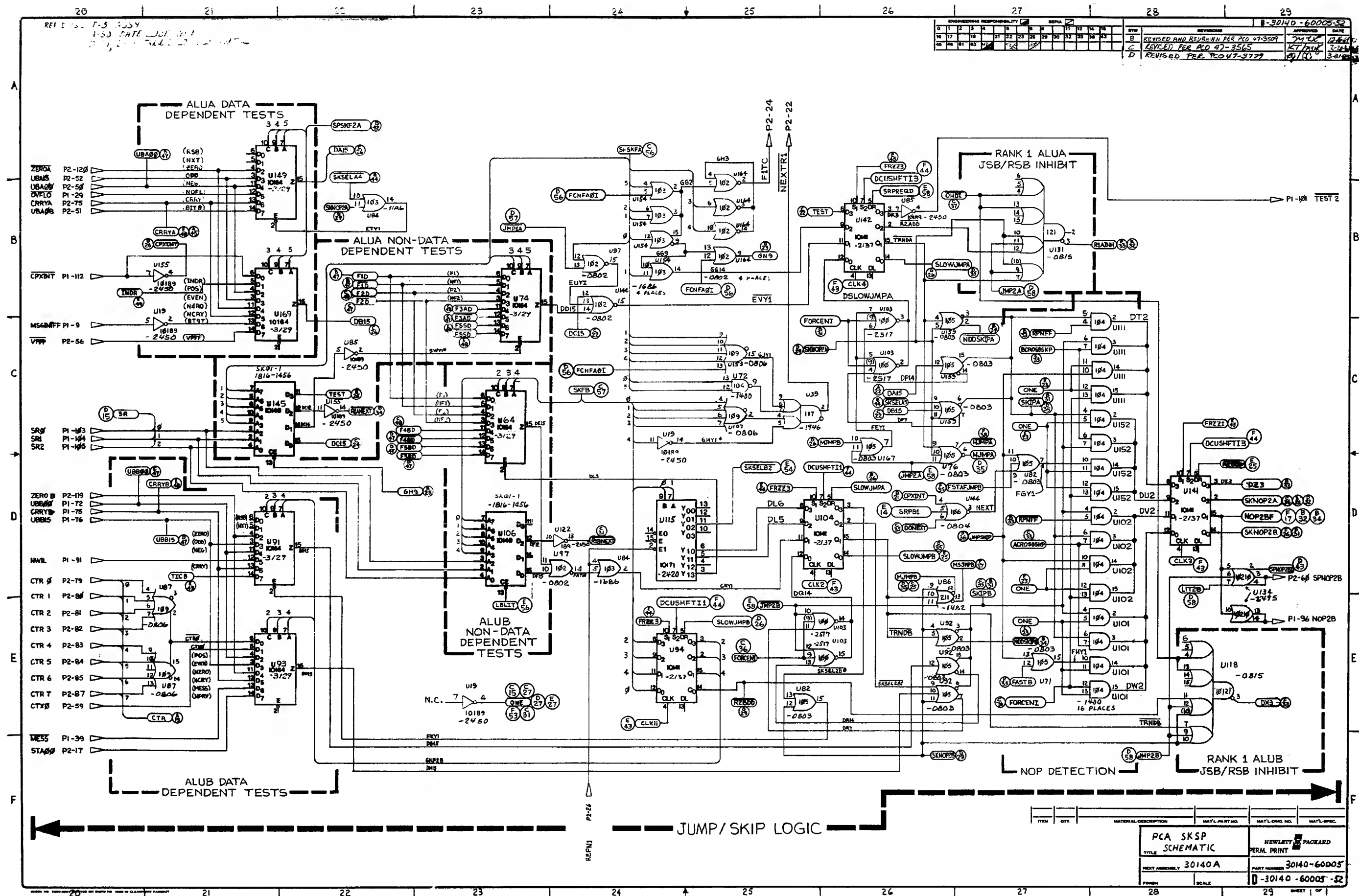


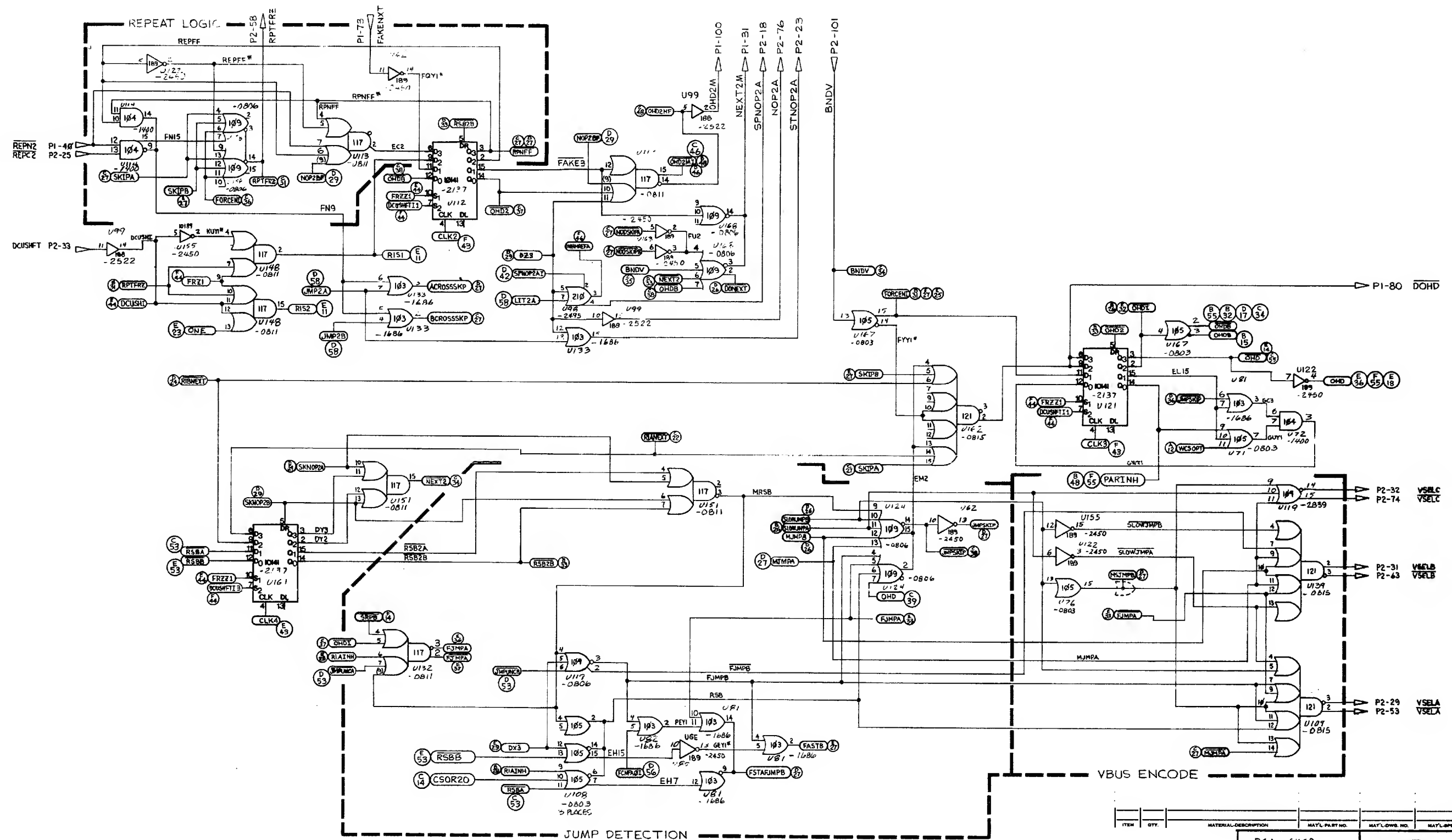
- NOTES:
- UNLESS OTHERWISE SPECIFIED:  
ALL RESISTANCE IN OHMS  
RESISTORS ARE 68 OHMS  
ALL CAPACITANCE IN MICROFARADS  
ALL CAPACITORS ARE .01UF (0160-5352)  
ALL ICs ARE 1820-
  - INSTALL ITEM ②
  - INSTALL ITEM ③ 3PLACES
  - MASK AS INDICATED PRIOR TO LOADING
  - ALL BOARD LOADING & HANDLING  
MUST BE DONE AT AN ELECTROSTATIC  
DISCHARGE PROTECTED WORK  
STATION CONTAINING TABLE & FLOOR  
MATS & GROUNDED WRIST STRAP.  
TRANSPORT ASSEMBLY IN ELECTRO-  
STATIC BAGS.
  - LOAD SOCKETS & ICs IN LOADING.
  - USE SUPPORT FIXTURE DURING  
WAVE SOLDER
  - LOAD ITEMS ③ and ⑦ IN TOUCHUP
  - PRETEST REQUIRED ON THE  
QUEST SYSTEM.
  - USING AN OHMMETER CHECK FOR A  
RESISTANCE OF GREATER THAN 25  
OHMS BETWEEN THESE POINTS A-A', A-B & B-B'  
BEFORE AND AFTER WAVE SOLDER  
DO NOT USE A CONTINUITY LIGHT ON  
THIS ASSEMBLY.
  - INSPECTION CRITERIA-HF STD. SECT 410.
  - THIS ASSY DWG, F-3, IS GOOD FOR  
BOTH REV B & C BOARDS.

12	1	LABEL DATE CODE	9320-5320
11	1	LBL SERIAL NUMBER	4510-4018
10	1	LBL-SON VES. NO	7120-7635
9	1	LBL-WARR DATE CD	7120-6830
8	1	LABEL MASK	7121-2116
7	2	BRACE	5010-6058
5	8	SCREW 4-40	0424-5077
4	2	EXTRACTOR	5010-8524
3	2	SN	1720-2116
2	3	TERM TEST POINT	0720-2227
1	1	PCB MASK	3010-80005

PCA SKSP	PCB SKSP
ASSY. DWG.	NEWLARK
30140 A B	30140-60005
1.5x1	F-30140-60005-3







ITEM	QTY.	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L QTY. NO.	MAT'L SPEC.
		PCA SKSP SCHEMATIC		HEWLETT PACKARD	
		TITLE	TERM PRINT		
		NEXT ASSEMBLY 30140A	PART NUMBER	30140-60005	
		FINISH	SCALE	0-30140-60005-53	

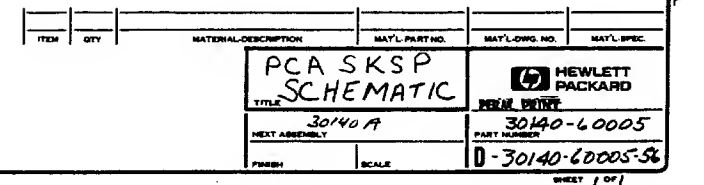






NOTES:

1. SIGNAL WIRE REFERS TO SIGNALS LINE BEING TERMINATED BY THE RESPECTIVE RESISTOR. (SEE NOTE 2)
2. THE LOOK NUMBER REPRESENTS THE REFERENCE INDICATOR ASSOCIATED WITH THE RESISTOR PAIR TERMINATING THE RESPECTIVE SIGNAL WIRE. THE NUMBER LISTED UNDER "PIN" REPRESENTS THE TERMINATING PIN FOR THAT SIGNAL.
3. THEIR TABLE SHOWS THE INTEGRATED CIRCUITS COMPREHENDING EACH SEGMENT OF THE SHIFT STRING. THE NUMBERS FOLLOWING THE LOOK NO., SUCH AS "LOOK 0-1", REPRESENTS THE BIT NUMBERS OF THE INTEGRATED CIRCUIT THAT ARE PRESENT IN THAT SEGMENT. THE NUMBERS IN PARENTHESES, SUCH AS "LOOK 0-1 (0-1)", ARE PRESENT IN THE SHIFT STRING SEGMENT. THE NUMBERS THAT ARE IN PARENTHESES, SUCH AS "(0-1)", GIVE THE NUMBER OF BITS THAT ARE PRESENT IN THAT SEGMENT OF THE SHIFT STRING. THE SEGMENTS WITH NO SUCH NUMBERS HAVE THE NUMBER OF BITS THAT WOULD BE EXPECTED. THE "H" OR "B" SPECIFIES IF THE SEGMENT IS REPRESENTED IN A HEX OR A BINARY NUMBER.
4. UNLESS OTHERWISE NOTED, ALL INTEGRATED CIRCUITS IN THE SHIFT STRING ARE 1620-0825. BIT 0-PIN 3, BIT 1-PIN 2, BIT 2-PIN 15, BIT 3-PIN 14.



KFF-1010 F3 ADDY  
K30 047 100 M 1  
S81 1416 D-50 11-HEM-F-10

ENGINEERING RESPONSIBILITY										REVISIONS										APPROVALS									
AS ISSUED PER PGO 47-3509										DATE										DATE									

GNO C1-2, C2-2, C3-2, C4-2, C5-2, C6-2, C7-2, C8-2, C9-2, C10-2, C11-2, C12-2, C13-2, C14-2, C15-2, C16-2, C17-2, C18-2, C19-2, C20-2, C21-2, C22-2, C23-2, C24-2, C25-2, C26-2, C27-2, C28-2, C29-2, C30-2, C31-2, C32-2, C33-2, C34-2, C35-2, C36-2, C37-2, C38-2, C39-2, C40-2, C41-2, C42-2, C43-2, C44-2, C45-2, C46-2, C47-2, C48-2, C49-2, C50-2, C51-2, C52-2, C53-2, C54-2, C55-2, C56-2, C57-2, C58-2, C59-2, C60-2, C61-2, C62-2, C63-2, C64-2, C65-2, C66-2, C67-2, C68-2, C69-2, C70-2, C71-2, C72-2, C73-2, C74-2, C75-2, C76-2, C77-2, C78-2, C79-2, C80-2, C81-2, C82-2, C83-2, C84-2, C85-2, C86-2, C87-2, C88-2, C89-2, C90-2, C91-2, C92-2, C93-2, C94-2, C95-2, C96-2, C97-2, C98-2, C99-2, C100-2, C101-2, C102-2, C103-2, C104-2, C105-2, C106-2, C107-2, C108-2, C109-2, C110-2, C111-2, C112-2, C113-2, C114-2, C115-2, C116-2, C117-2, C118-2, C119-2, C120-2, C121-2, C122-2, C123-2, C124-2, C125-2, C126-2, C127-2, C128-2, C129-2, C130-2, C131-2, C132-2, C133-2, C134-2, C135-2,

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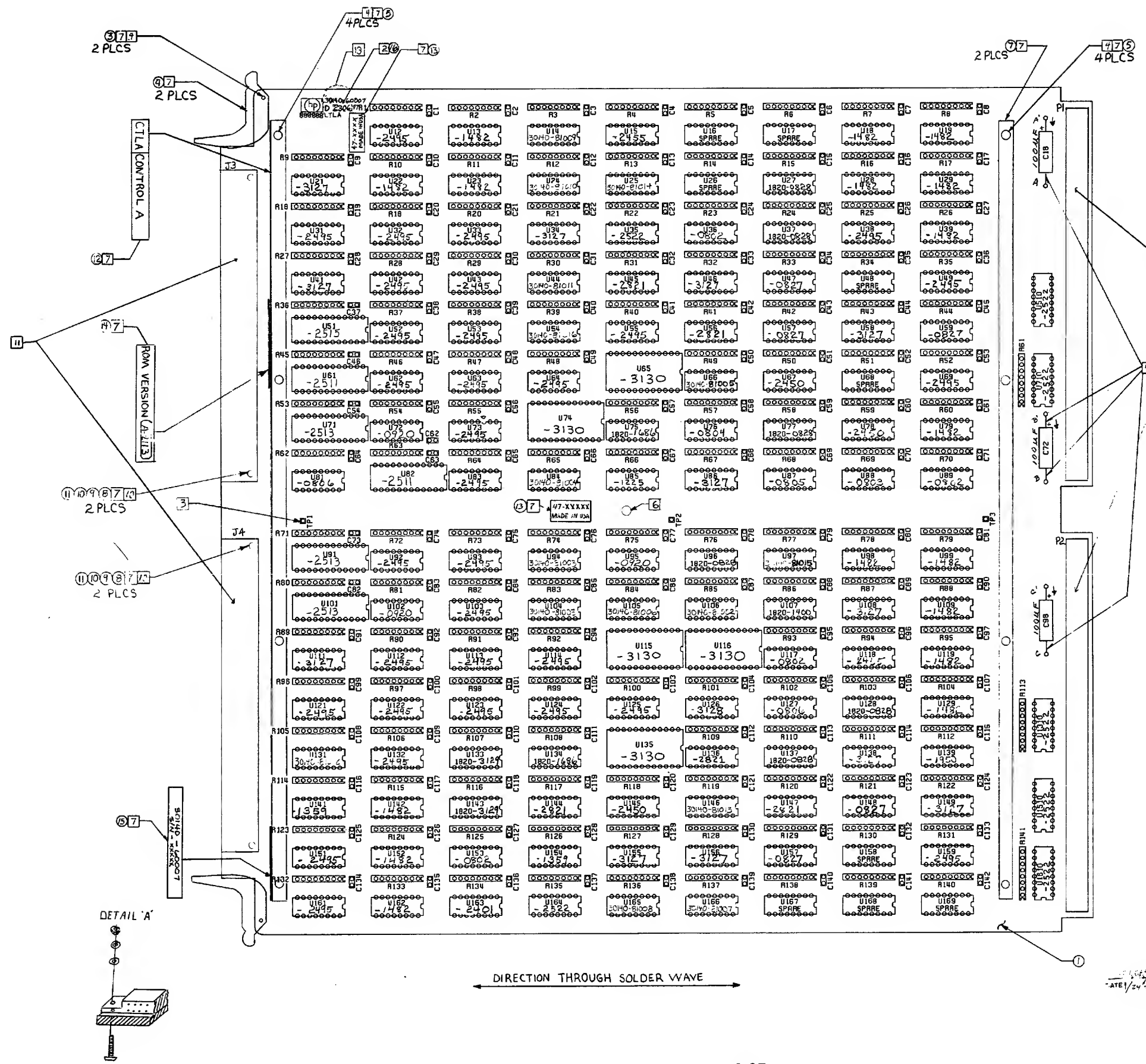
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ITEM		QTY.		MATERIAL DESCRIPTION		MATERIAL PART NO.		MATERIAL QTY. REQ.		MATERIAL SPEC.	
PCA SKSP SCHEMATIC						HEWLETT PACKARD					
30140A						30140-60005					
NEXT ASSEMBLY						PART NUMBER					
FINISH						SCALE					
SHEET 1 OF 1						SHEET 1 OF 1					



REF DWGS.: A-50 DATE CODE INFO.  
D-51 THRU D-56 SCHEM.  
D-5 MODIF DWG

F-30140-60007-4			
REV	DATE	BY	CHK
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2	11/15/74	WJ	WJ
3	11/15/74	WJ	WJ
4	11/15/74	WJ	WJ
5	11/15/74	WJ	WJ
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98	11/15/74	WJ	WJ
99	11/15/74	WJ	WJ
100	11/15/74	WJ	WJ



- NOTES:
1. UNLESS OTHERWISE SPECIFIED.  
ALL RESISTANCE IN OHMS  
RESISTORS ARE 68 OHMS  
ALL CAPACITANCE IN MICROFARADS  
ALL CAPACITORS ARE .01UF (0160-5302)  
ALL IC'S ARE 182C-
  2. INSTALL ITEM ⑥
  3. INSTALL ITEM ② 3 PLACES
  4. MASK AS INDICATED PRIOR TO LOADING
  5. ALL LOTS - ALL PARTS MUST BE TESTED WITH A RED WAVE  
STATION. THIS ASSEMBLY MUST BE TRANSPORTED IN AN ELECTROSTATIC  
DISCHARGE PROOF CONTAINER.
  6. USE SUPPORT FIXTURE DURING WAVE SOLDER.
  7. INSTALL ITEMS ③, ⑤, ⑥, ⑦, ⑧, ⑨, ⑩, ⑪ IN TOUCHUP.
  8. PRETEST REQUIRED ON THE SAME LOT.
  9. USING AN IRON, SOLDER A PERMANENT GROUND TO 25 OHMS  
RETURN TO POINTS: A-B, B-C, C-A, A-C, B-B AND C-C  
BEFORE AND AFTER WAVE SOLDERING. DO NOT USE A  
CONTINUITY LIGHT ON THIS ASSEMBLY.
  10. INSTALL ITEMS ③ THRU ⑩ PER DETAIL A.
  11. LOAD CONNECTORS FIRST.
  12. INSPECTION CRITERIA-HP STD. SECT 410
  13. THIS ASSEMBLY DWG, F-4, IS GOOD FOR BOARD REV'S B, C, D.

ITEM	QTY	MATERIAL DESCRIPTION	MATERIAL PART NO.	MATERIAL SPEC.
16	1	LABEL-DATE CODE	9320-5330	
15	1	LABEL-SERIAL NUMBER	9320-4848	
14	1	LABEL-RPM VERSION	7120-7635	
13	1	LBL-WARR DATE CD	7120-6830	
12	1	LABEL	7121-2125	
11	4	WASHER, FLAT #2	2190-0479	
10	4	WASHER LOCK #2	2190-0045	
9	4	NUT 2-56	0640-0601	
8	4	SCREW 2-56X.312	0620-0621	
7	2	BRACE	5040-0058	
6	1	DELTA		
5	8	SCREW 4-40	0624-0677	
4	2	EXTRACTOR	5040-9804	
3	2	PIN	1480-0116	
2	3	STD SOLDER TERM	0360-0294	
1	1	PCB-CTLA	30140-60007	

PCA-CTLA	HEWLETT PACKARD
ASSY DWG.	
REV: 30140A	30140-60007
SCALE: 1:1	F-30140-60007

ENGINEERING RESPONSIBILITY <input checked="" type="checkbox"/> DEFA <input checked="" type="checkbox"/>																P-36140-60007-57									
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	BY	REVISIONS		APPROVED	DATE					
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		A	REVISED AND REGRANDED PER PCO 47-3481	THC	11-82					
32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47		C	REVISED PER PCO 47-3546	ST/MLK	11-82					
48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63		D	REVISED DEL PCO 47-3702	DEL/MLK	12-82					











NOTE:

- 1 SIGNAL NAME REFERS TO SIGNALS LINE BEING TERMINATED BY THE RESPECTIVE REGISTER. (SEE NOTE 2)
- 2 THE LOOK NUMBER LISTED UNDER "PNAME" REPRESENTS THE REFERENCE DESIGNATOR ASSOCIATED WITH THE REGISTER PACK TERMINATING THE RESPECTIVE SIGNAL NAME. THE LOOK LISTED UNDER "PIN" REPRESENTS THE TERMINATING PINS OF THAT REGISTER.
- 3 THIS TABLE SHOWS THE INTEGRATED CIRCUITS COMPRISING EACH SEGMENT OF THE SHIFT STRING. THE NUMBERS FOLLOWING THE LOOK NO., SUCH AS "LOOK 0-1", REPRESENTS THE BIT NUMBERS OF THE INTEGRATED CIRCUIT THAT COMPOSE THE SHIFT STRING. IF THE NUMBERS ARE GIVEN, SUCH AS "LOOK", THEN ALL OF THE OUTPUT BITS, 0-3, ARE PRESENT IN THE SHIFT STRING SEGMENT. THE NUMBERS THAT ARE IN PARENTHESES, SUCH AS "(0)", GIVE THE NUMBER OF BITS THAT ARE PRESENT IN THAT SEGMENT OF THE SHIFT STRING. THE NUMBER WITH NO SUCH NUMBERS HAVE THE NUMBER OF BITS THAT WOULD BE EXPECTED. THE "H" OR "B" SPECIFIER IF THE SEGMENT IS REPRESENTED IN A HEX OR B BINARY NUMBER.
- 4 UNLESS OTHERWISE NOTED, ALL INTEGRATED CIRCUITS IN THE SHIFT STRING ARE 1820-0825. BIT 0=PIN 3, BIT 1=PIN 2, BIT 2=PIN 15, BIT 3=PIN 14.

344	7PASH12	R54	7
345	VBBIHK	R45	4
346	XCC	R77	3
347	XC1	R77	4
348	ZEROA	R116	4
349	ZEROB*	R125	7
350	ZROA0*	R62	8
351	ZROA1*	R71	4
352	ZROA2*	R71	6
353	ZPOA3*	R71	5
354	ZROB0*	R62	3
355	ZROB1*	R62	6
356	ZROB2*	R62	5
357	ZROB3*	R62	7
358	ZDT1*	R83	4
X	L27CBI*	R127	5

STOCK NO 5400-0000	51		52	53	54	55	56	57	58	59	SHEET OF
--------------------	----	--	----	----	----	----	----	----	----	----	----------

REF Dwg F-4 A-5  
4-50, DATE 03-11-71  
1-51 THRU D-55, SCHEMATIC  
D-5, MODIF DWG

ENGINEERING RESPONSIBILITY										REVISIONS										DATE									
BY: A										REV: 1										DATE: 11-16-71									
AS 152722 PER 900 47-3471																													

GND C1-2, C2-2, C3-2, C4-2, C5-2, C6-2, C7-2, C8-2, C9-2, C10-2, C11-2, C12-2, C13-2, C14-2, C15-2, C16-2, C17-2, C18-2, C19-2, C20-2, C21-2, C22-2, C23-2, C24-2, C25-2, C26-2, C27-2, C28-2, C29-2, C30-2, C31-2, C32-2, C33-2, C34-2, C35-2, C36-2, C37-2, C38-2, C39-2, C40-2, C41-2, C42-2, C43-2, C44-2, C45-2, C46-2, C47-2, C48-2, C49-2, C50-2, C51-2, C52-2, C53-2, C54-2, C55-2, C56-2, C57-2, C58-2, C59-2, C60-2, C61-2, C62-2, C63-2, C64-2, C65-2, C66-2, C67-2, C68-2, C69-2, C70-2, C71-2, C72-2, C73-2, C74-2, C75-2, C76-2, C77-2, C78-2, C79-2, C80-2, C81-2, C82-2, C83-2, C84-2, C85-2, C86-2, C87-2, C88-2, C89-2, C90-2, C91-2, C92-2, C93-2, C94-2, C95-2, C96-2, C97-2, C98-2, C99-2, C100-2, C101-2, C102-2, C103-2, C104-2, C105-2, C106-2, C107-2, C108-2, C109-2, C110-2, C111-2, C112-2, C113-2, C114-2, C115-2, C116-2, C117-2, C118-2, C119-2, C120-2, C121-2, C122-2, C123-2, C124-2, C125-2, C126-2, C127-2, C128-2, C129-2, C130-2, C131-2, C132-2, C133-2, C134-2, C135-2, C136-2, C137-2, C138-2, C139-2, C140-2, C141-2, C142-2,

P1-004, P1-011, P1-020, P1-027, P1-036, P1-049, P1-058, P1-065, P1-074, P1-081, P1-082, P1-083, P1-084, P1-085, P1-086, P1-093, P1-102, P1-109, P2-001, P2-002, P2-003, P2-004, P2-005, P2-006, P2-014, P2-021, P2-030, P2-045, P2-054, P2-061, P2-070, P2-077, P2-086, P2-093, P2-102, P2-109, P2-118, P3-006, P3-015, P3-026, P3-035, P3-046, P3-055, P3-066, P3-075, P3-086, P3-095, P4-006, P4-015, P4-026, P4-035, P4-046, P4-055, P4-066, P4-075, P4-086, P4-095,

TP1-1, TP2-1, TP3-1,

U12-16, U12-15, U12-1, U13-16, U13-15, U13-1, U14-16, U14-1, U15-16, U15-1, U16-16, U16-1, U17-16, U17-1, U18-16, U18-1, U19-16, U19-1, U20-16, U20-1, U21-16, U21-1, U22-16, U22-1, U23-16, U23-1, U24-16, U24-1, U25-16, U25-1, U26-16, U26-1, U27-16, U27-1, U28-16, U28-1, U29-16, U29-1, U30-16, U30-1, U31-16, U31-1, U32-16, U32-1, U33-16, U33-1, U34-16, U34-1, U35-16, U35-1, U36-16, U36-1, U37-16, U37-1, U38-16, U38-1, U39-16, U39-1, U40-16, U40-1, U41-16, U41-1, U42-16, U42-1, U43-16, U43-1, U44-16, U44-1, U45-16, U45-1, U46-16, U46-1, U47-16, U47-1, U48-16, U48-1, U49-16, U49-1, U50-16, U50-1, U51-16, U51-1, U52-16, U52-1, U53-16, U53-1, U54-16, U54-1, U55-16, U55-1, U56-16, U56-1, U57-16, U57-1, U58-16, U58-1, U59-16, U59-1, U60-16, U60-1, U61-16, U61-1, U62-16, U62-1, U63-16, U63-1, U64-16, U64-1, U65-16, U65-1, U66-16, U66-1, U67-16, U67-1, U68-16, U68-1, U69-16, U69-1, U70-16, U70-1, U71-16, U71-1, U72-16, U72-1, U73-16, U73-1, U74-16, U74-1, U75-16, U75-1, U76-16, U76-1, U77-16, U77-1, U78-16, U78-1, U79-16, U79-1, U80-16, U80-1, U81-16, U81-1, U82-16, U82-1, U83-16, U83-1, U84-16, U84-1, U85-16, U85-1, U86-16, U86-1, U87-16, U87-1, U88-16, U88-1,

GND U89-16, U89-1, U90-16, U90-1, U91-16, U91-1, U92-16, U92-1, U93-16, U93-1, U94-16, U94-1, U95-16, U95-1, U96-16, U96-1, U97-16, U97-1, U98-16, U98-1, U99-16, U99-1, U100-16, U100-1, U101-16, U101-1, U102-16, U102-1, U103-16, U103-1, U104-16, U104-1, U105-16, U105-1, U106-16, U106-1, U107-16, U107-1, U108-16, U108-1, U109-16, U109-1, U110-16, U110-1, U111-16, U111-1, U112-16, U112-1, U113-16, U113-1, U114-16, U114-1, U115-16, U115-1, U116-16, U116-1, U117-16, U117-1, U118-16, U118-1, U119-16, U119-1, U120-16, U120-1, U121-16, U121-1, U122-16, U122-1, U123-16, U123-1, U124-16, U124-1, U125-16, U125-1, U126-16, U126-1, U127-16, U127-1, U128-16, U128-1, U129-16, U129-1, U130-16, U130-1, U131-16, U131-1, U132-16, U132-1, U133-16, U133-1, U134-16, U134-1, U135-16, U135-1, U136-16, U136-1, U137-16, U137-1, U138-16, U138-1, U139-16, U139-1, U140-16, U140-1, U141-16, U141-1, U142-16, U142-1, U143-16, U143-1, U144-16, U144-1, U145-16, U145-1, U146-16, U146-1, U147-16, U147-1, U148-16, U148-1, U149-16, U149-1, U150-16, U150-1, U151-16, U151-1, U152-16, U152-1, U153-16, U153-1, U154-16, U154-1, U155-16, U155-1, U156-16, U156-1, U157-16, U157-1, U158-16, U158-1, U159-16, U159-1, U160-16, U160-1, U161-16, U161-1, U162-16, U162-1, U163-16, U163-1, U164-16, U164-1, U165-16, U165-1, U166-16, U166-1, U167-16, U167-1, U168-16, U168-1, U169-16, U169-1,

-2V C3-1, C5-1, C6-1, C7-1, C8-1, C9-1, C10-1, C11-1, C13-1, C22-1, C24-1, C25-1, C26-1, C27-1, C28-1, C29-1, C30-1, C32-1, C40-1, C42-1, C43-1, C44-1, C45-1, C47-1, C48-1, C57-1, C58-1, C59-1, C60-1, C61-1, C65-1, C66-1, C74-1, C77-1, C78-1, C79-1, C80-1, C81-1, C84-1, C85-1, C91-1, C92-1, C95-1, C96-1, C97-1, C98-1, C101-1, C102-1, C103-1, C104-1, C108-1, C109-1, C113-1, C114-1, C115-1, C118-1, C119-1, C121-1, C125-1, C126-1, C129-1, C131-1, C132-1, C133-1, C136-1, C137-1, C139-1,

P2-035, P2-036, P2-037, P2-038, P2-039, P2-040,

R1-1, R2-1, R3-1, R4-1, R5-1, R6-1, R7-1, R8-1, R9-1, R10-1, R11-1, R12-1, R13-1, R14-1, R15-1, R16-1, R17-1, R18-1, R19-1, R20-1, R21-1, R22-1, R23-1, R24-1, R25-1, R26-1, R27-1, R28-1, R29-1, R30-1, R31-1, R32-1, R33-1, R34-1, R35-1, R36-1, R37-1, R38-1, R39-1, R40-1, R41-1, R42-1, R43-1, R44-1, R45-1, R46-1, R47-1, R48-1, R49-1, R50-1, R51-1, R52-1, R53-1, R54-1, R55-1, R56-1, R57-1, R58-1, R59-1, R60-1, R61-1, R62-1, R63-1, R64-1, R65-1, R66-1, R67-1, R68-1, R69-1, R70-1, R71-1, R72-1, R73-1, R74-1, R75-1, R76-1, R77-1, R78-1, R79-1, R80-1, R81-1, R82-1, R83-1, R84-1, R85-1, R86-1, R87-1, R88-1, R89-1, R90-1, R91-1, R92-1, R93-1, R94-1, R95-1, R96-1, R97-1, R98-1, R99-1, R100-1, R101-1, R102-1, R103-1, R104-1, R105-1, R106-1, R107-1, R108-1, R109-1, R110-1, R111-1, R112-1, R113-1, R114-1, R115-1, R116-1, R117-1, R118-1, R119-1, R120-1, R121-1, R122-1, R123-1, R124-1, R125-1, R126-1, R127-1, R128-1, R129-1, R130-1, R131-1, R132-1, R133-1, R134-1, R135-1, R136-1, R137-1, R138-1, R139-1, R140-1, R141-1,

-4.5V C18-2, C37-1, C46-1, C54-1, C63-1, C73-1, C82-1, P1-039, P1-040, P1-041, P1-042, P1-043, P1-044, U51-18, U61-18, U71-18, U82-18, U91-18, U101-18,

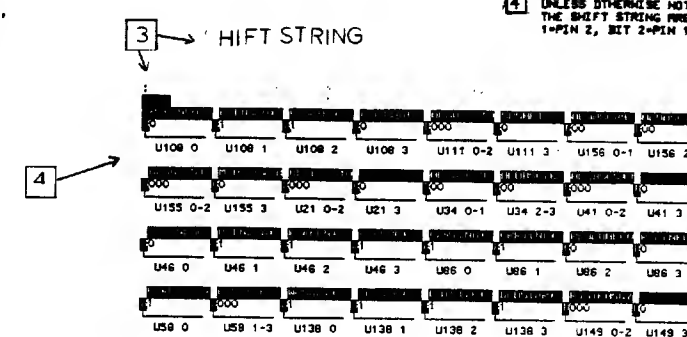
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P1-115, P1-116, P1-117, P1-118, P1-119, P1-120,

U12-8, U13-8, U14-8, U15-8, U16-8, U17-8, U18-8, U19-8, U20-8, U21-8, U22-8, U23-8, U24-8, U25-8, U26-8, U27-8, U28-8, U29-8, U30-8, U31-8, U32-8, U33-8, U34-8, U35-8, U36-8, U37-8, U38-8, U39-8, U40-8, U41-8, U42-8, U43-8, U44-8, U45-8, U46-8, U47-8, U48-8, U49-8, U50-8, U51-8, U52-8, U53-8, U54-8, U55-8, U56-8, U57-8, U58-8, U59-8, U60-8, U61-8, U62-8, U63-8, U64-8, U65-8, U66-8, U67-8, U68-8, U69-8, U70-8, U71-8, U72-8, U73-8, U74-8, U75-8, U76-8, U77-8, U78-8, U79-8, U80-8, U81-8, U82-8, U83-8, U84-8, U85-8, U86-8, U87-8, U88-8, U89-8, U90-8, U91-8, U92-8, U93-8, U94-8, U95-8, U96-8, U97-8, U98-8, U99-8, U100-8, U101-8, U102-8, U103-8, U104-8, U105-8, U106-8, U107-8, U108-8, U109-8, U110-8, U111-8, U112-8, U113-8, U114-8, U115-8, U116-8, U117-8, U118-8, U119-8, U120-8, U121-8, U122-8, U123-8, U124-8, U125-8, U126-8, U127-8, U128-8, U129-8, U130-8, U131-8, U132-8, U133-8, U134-8, U135-8, U136-8, U137-8, U138-8, U139-8, U140-8, U141-8, U142-8, U143-8, U144-8, U145-8, U146-8, U147-8, U148-8, U149-8, U150-8, U151-8, U152-8, U153-8, U154-8, U155-8, U156-8, U157-8, U158-8, U159-8, U160-8, U161-8, U162-8, U163-8, U164-8, U165-8, U166-8, U167-8, U168-8, U169-8,

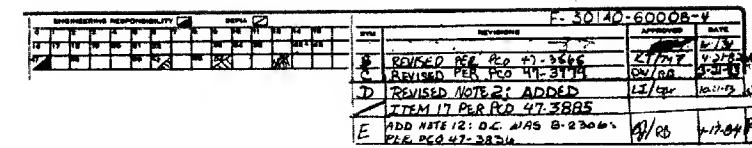
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NOTES:  
1 SIGNAL WAVE REFERS TO SIGNALS LINE BEING TERMINATED BY THE RESPECTIVE RESISTOR. (SEE NOTE 2)  
2 THE BOX NUMBER LISTED UNDER "PACK" REPRESENTS THE REFERENCE DESIGNATOR ASSOCIATED WITH THE RESISTOR PACK TERMINATING THE RESPECTIVE SIGNAL WAVE. THE NUMBER LISTED UNDER "PIN" REPRESENTS THE TERMINATING PIN FOR THAT SIGNAL.  
3 THIS TABLE SHOWS THE INTEGRATED CIRCUITS COMPRISING EACH SEGMENT OF THE SHIFT STRING. THE NUMBERS FOLLOWING THE LOOK NO., SUCH AS "LOOK 0-1", REPRESENTS THE BIT NUMBERS OF THE INTEGRATED CIRCUIT THAT ARE PRESENT IN THAT SEGMENT. IF NO BIT NUMBERS ARE GIVEN, SUCH AS "LOOK", THEN ALL OF THE OUTPUT BITS, 0-3, ARE PRESENT IN THE SHIFT STRING SEGMENT. THE NUMBERS THAT ARE IN PARENTHESES, SUCH AS "(8)", GIVE THE NUMBER OF BITS THAT ARE PRESENT IN THAT SEGMENT OF THE SHIFT STRING. THE SEGMENTS WITH NO SUCH NUMBERS HAVE THE NUMBER OF BITS THAT WOULD BE EXPECTED. THE "H" OR "B" SPECIFIES IF THE SEGMENT IS REPRESENTED IN A HEX OR A BINARY NUMBER.  
4 UNLESS OTHERWISE NOTED, ALL INTEGRATED CIRCUITS IN THE SHIFT STRING ARE 1820-0825. BIT 0-PIN 3, BIT 1-PIN 2, BIT 2-PIN 15, BIT 3-PIN 14.




ITEM	QTY	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L QTY NO.	MAT'L SPEC.
		PCA CTLA SCHEMATIC			
		TITLE			
		NEXT ASSEMBLY 30140A	PART NUMBER 30140-60007		
		FINISH	SCALE		
SHEET 1 OF 1					





11. INSPECT CRITERIA PER HP STD. SECT. 110.

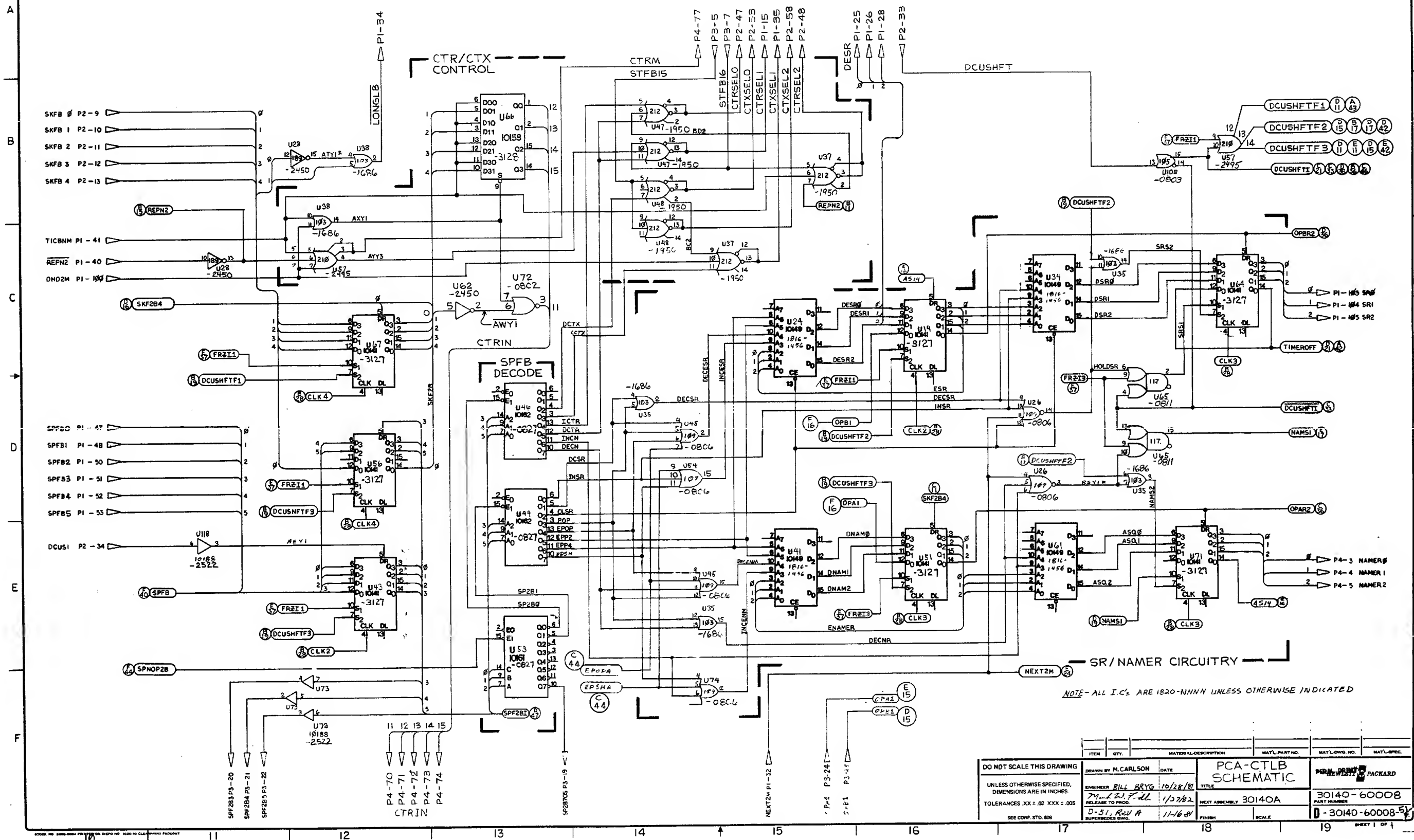
17	1	LABEL - DATE CODE	9720-5320
16	1	LABEL - SERIAL NUMBER	4320-1248
15	1	LABEL - PCM VERSION	7120-7620
14	4	WASHER - FLAT	2190-2479
13	4	WASHER - LOCK	2190-0045
12	4	NUT 2-3/8	0610-0001
11	4	SCR 2-3/8 X .312	0720-0129
10	1	CRYSTAL	5410-3E5
9	1	LBL-WORK DATE CD	7120-6880
8	1	LAEL CTLB	7121-2145
7	2	BRACE	5040-0008
		Colored	
5	8	SCREW 4-40	1634-0017
4	2	EXTENSION	5040-9404
3	2	PIN	1480-0116
2	3	STUD SOLDER TERMINAL	0360-0134
1		PCB-CTLB	5040-80008

WAL-OBSOBS	WAL-PART NO.	WAL-DWG. NO.	WAL-PCMC
PCA-CTLB TITLE ASSEMBLY DWG.		HEWLETT  PACKARD	
30140A/B		30140-60008	
NEXT ASSEMBLY	PART NUMBER		
FIGURE	SCALE 1.5:1	F-30140-60008-4	

REF DWGS: F-4 ASSY.  
A-30 P-4 ASSY.  
D-52 T-4 ASSY.

ENGINEERING RESPONSIBILITY															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48

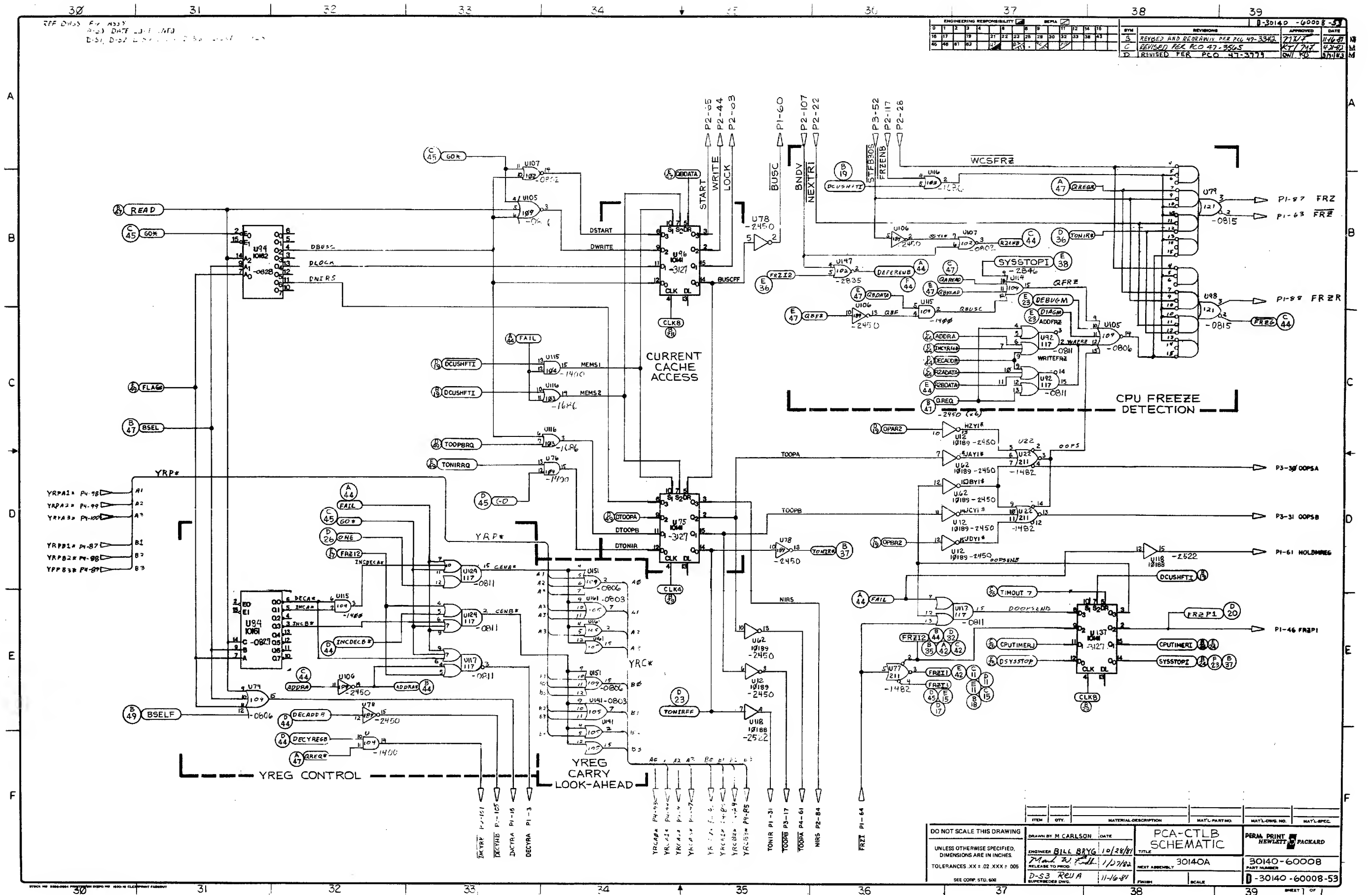
REV	BY	DATE	DESCRIPTION
1	WJL	11-16-81	REVISED AND REDRAWN PER PCO 47-3342
2	WJL	11-16-81	REVISED PER PCO 47-3342
3	WJL	11-16-81	REVISED PER PCO 47-3342
4	WJL	11-16-81	REVISED PER PCO 47-3342



NOTE - All I.C.'s are 1820-NNNN UNLESS OTHERWISE INDICATED

ITEM	QTY	MATERIAL DESCRIPTION	MATL PART NO.	MATL QTY NO.	MATL SPEC.
DO NOT SCALE THIS DRAWING					
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES.					
TOLERANCES XX ± .02 XXX ± .005					
SEE CORP. STD. 808					
ENGINEER: BILL BRYO	DATE: 10/28/81	TITLE: PCA-CTLB SCHEMATIC	REV: 1	30140A	30140-60008
DESIGNED BY: D-51, REV A	11-16-81	FINISH: SCALE			





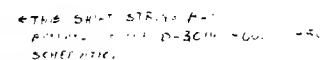




NOTES:

- 1 SIGNAL NAME REFERS TO SIGNALS LINE BEING TERMINATED BY THE RESPECTIVE RESISTOR. (SEE NOTE 2)
- 2 THE NUMBER LISTED UNDER EACH SIGNAL NAME REPRESENTS THE REFERENCE DESIGNATOR ASSOCIATED WITH THE RESISTOR PAIR TERMINATING THE RESPECTIVE SIGNAL NAME. THE NUMBER LISTED UNDER "PIN" REPRESENTS THE TERMINATING PIN FOR THAT SIGNAL.
- 3 THIS TABLE SHOWS THE INTEGRATED CIRCUITS COMPRISING EACH SEGMENT OF THE SHIFT STRING. THE NUMBERS FOLLOWING THE LOOK NO., SUCH AS "LOOK D-1", REPRESENTS THE BIT NUMBERS OF THE INTEGRATED CIRCUIT THAT ARE PRESENT IN THAT SEGMENT. IF NO NUMBERS ARE GIVEN, SUCH AS "LOOK 0", THEN ALL OF THE OUTPUT BITS ARE PRESENT IN THE SHIFT STRING SEGMENT. THE NUMBERS THAT ARE IN PARENTHESIS, SUCH AS "(6)", GIVE THE NUMBER OF BITS THAT ARE PRESENT IN THAT SEGMENT OF THE SHIFT STRING.
- 4 THE NUMBER OF SEGMENTS WITHIN EACH NUMBERS OF THE NUMBER OF BITS THAT WOULD BE EXPECTED. THE "H" OR "B" SPECIFIES IF THE SEGMENT IS REPRESENTED IN HEX OR B BINARY NUMBER.

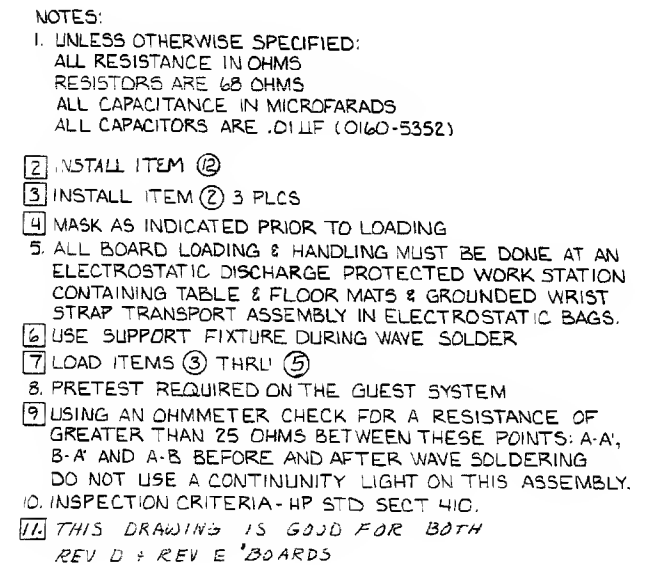
THE FOLLOWING TABLES SHOW ALL INTEGRATED CIRCUITS IN THE SHIFT STRING PAIR 182D-08N. BIT 0-DPIN 3, BIT 1-PIN 2, BIT 2-PIN 15, BIT 3-PIN 14.

[illegible]

REF DUIGS F4, ASSY  
A-30, DATE (DDF INF)  
D-SI THRU D-SS, SCHAFF: HTAS

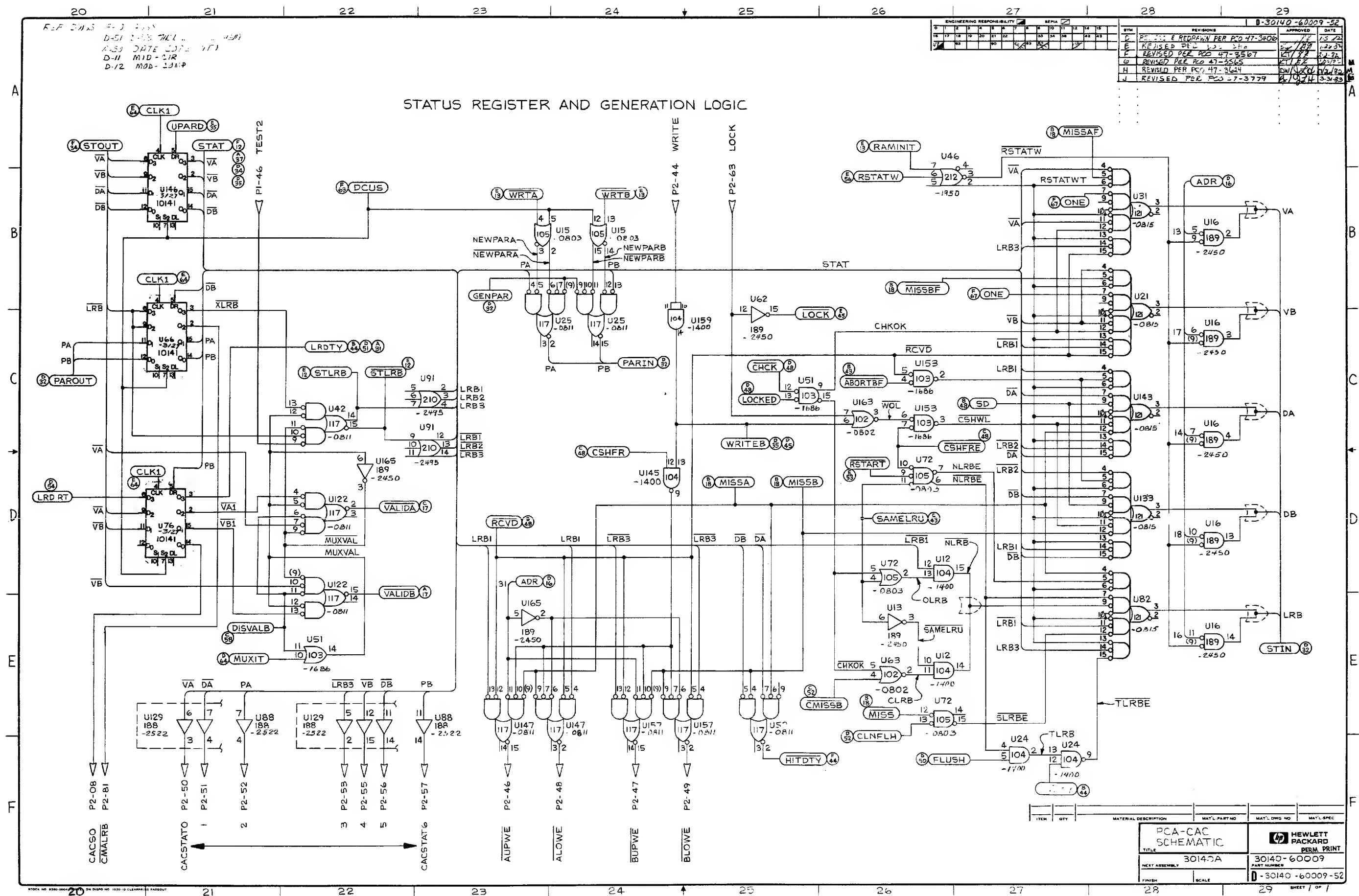
ENGINEERING RESPONSIBILITY											
0	1	2	3	4	5	6	7	8	9	10	11
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24	25	26	27	28	29	30	31	32	33	34	35
36	37	38	39	40	41	42	43	44	45	46	47
48	49	50	51	52	53	54	55	56	57	58	59
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72	73	74	75	76	77	78	79	80	81	82	83
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936	937	938	939	940	941	942	943	944	945	946	947
948	949	950	951	952	953	954	955	956	957	958	959
960	961	962	963	964	965	966	967	968	969	970	971
972	973	974	975	976	977	978	979	980	981	982	983
984	985	986	987	988	989	990	991	992	993	994	995
996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007
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1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115
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1272	1273	1274	1275	1276	1277	1278	1279	1280	1281	1282	1283
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1356	1357	1358	1359	1360	1361	1362	1363	1364	1365	1366	1367
1368	1369	1370	1371	1372	1373	1374	1375	1376	1377	1378	1379
1380	1381	1382	1383	1384	1385	1386	1387	1388	1389	1390	1391
1392	1393	1394	1395	1396	1397	1398	1399	1400	1401	1402	1403
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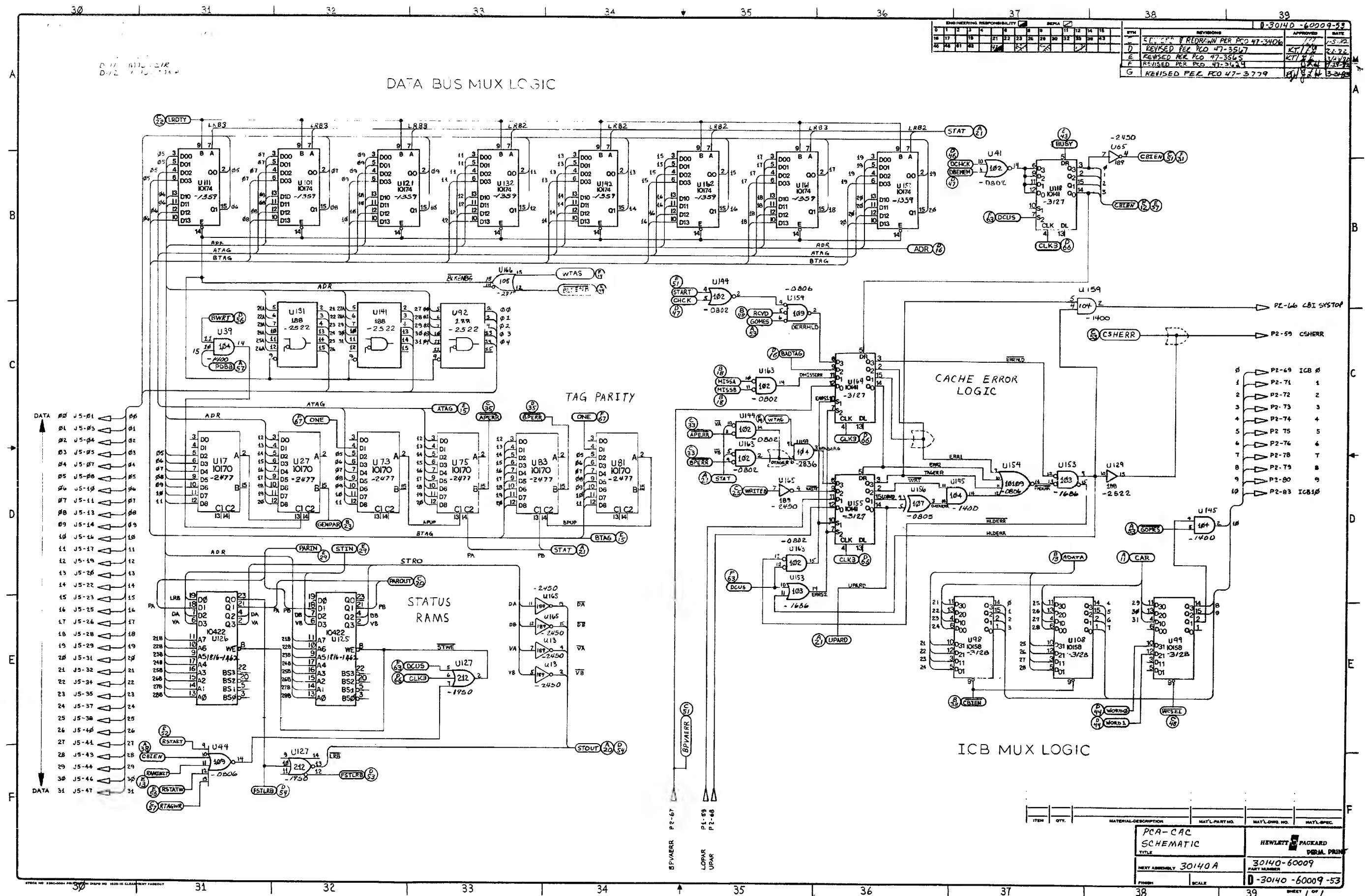


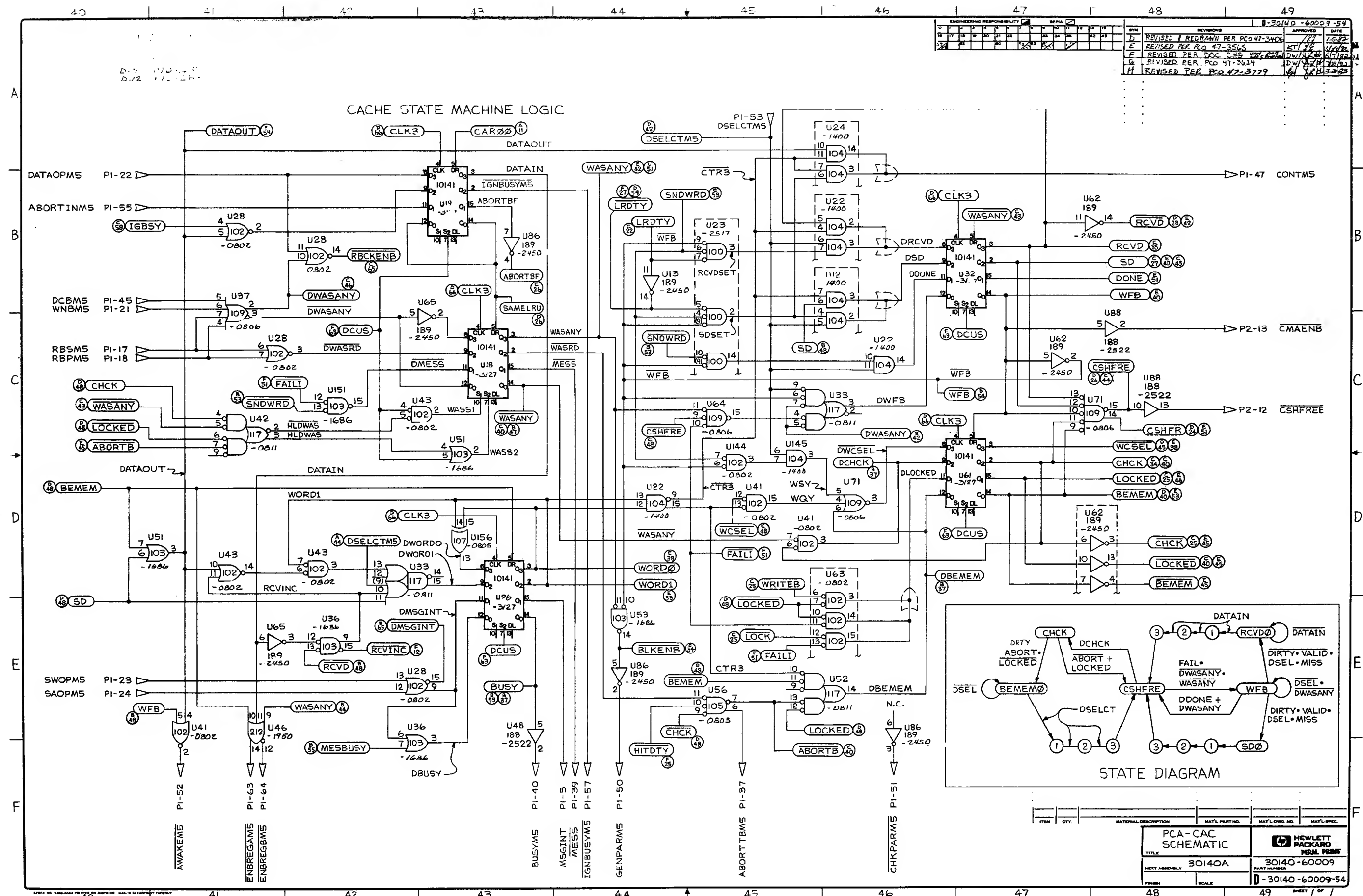


1	7	LABEL - DATE CODE	9320-6320		
2	8	LABEL - SERIAL #	9320-6320		
3	9	CONN POSI SOMA	9320-6320		
4	0	L&L WPCB DATE CD	9320-6320		
5	1	LABLE PCB CAC	9320-6320		
6	2	BRACE	5040-6058		
7	3	D. (C)			
8	4	SCREW 4-40	0624-0011		
9	5	EXTRACTORS	5040-9804		
0	6	PIN	940-0116		
1	7	TERM. TEST POINT	NSC-0284		
2	8	PCB CIR.	9000-8009		
ITEM	QTY	MATERIAL DESCRIPTION	MATL PART NO	MATL QTY REQD	MATL SPEC
PCA-CACHE ASSY DWG					
TITLE					
30140A/B					
NEXT REVISION /					
FINDER —					
DATE 1/5/1					
PART NUMBER					
F.30140-60009-13					



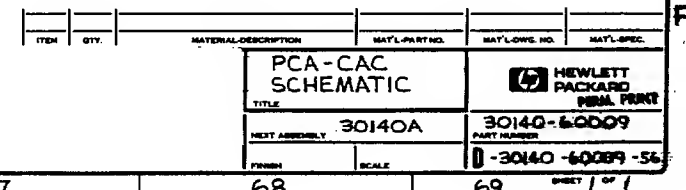












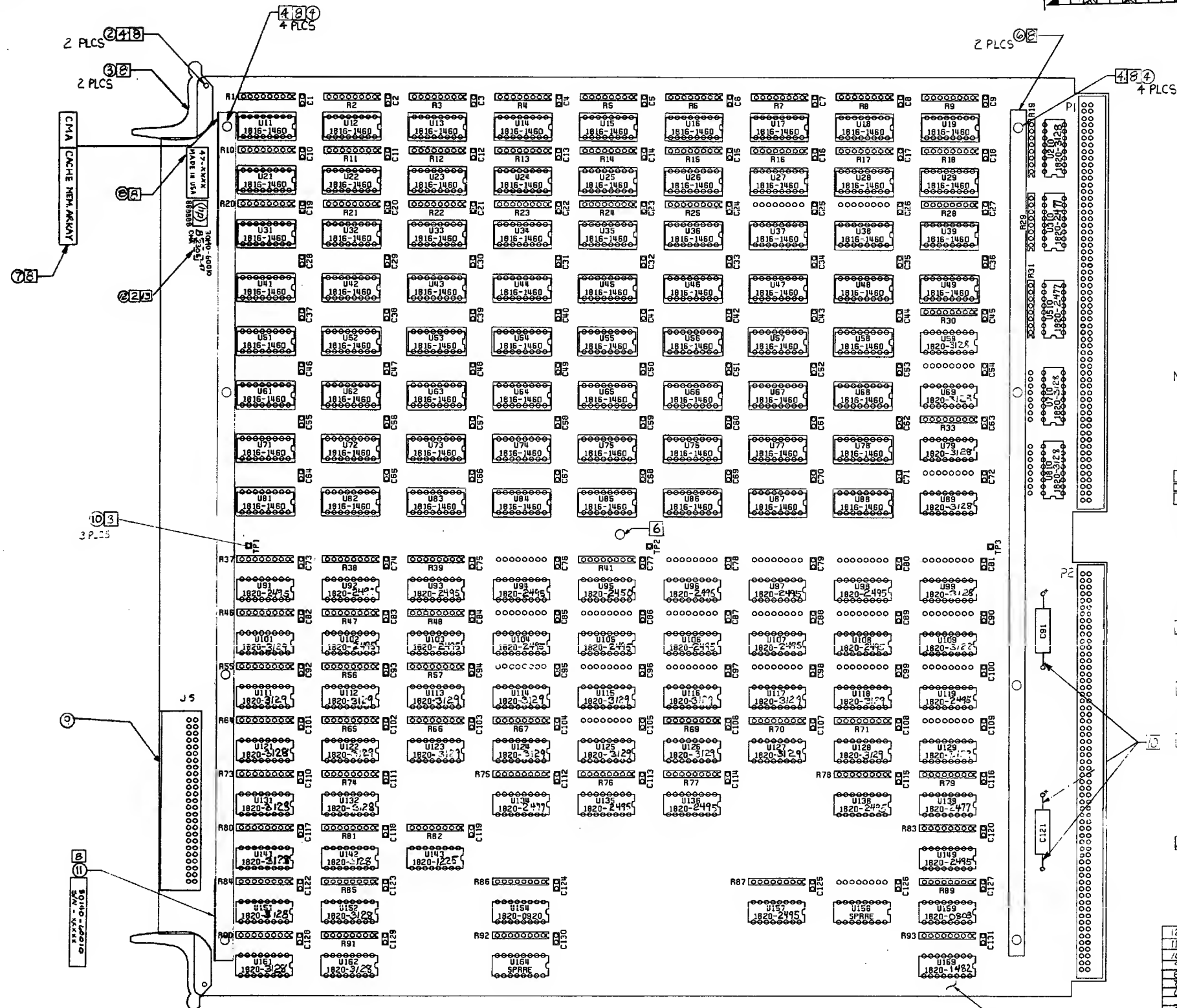


1. SIGNAL NAME REFERS TO SIGNALS LINE BEING TERMINATED BY THE RESPECTIVE RESISTOR. (SEE NOTE 2.)
2. THE BOOK NUMBER LISTED UNDER "BOOK" REPRESENTS THE REFERENCE DESIGNATOR ASSOCIATED WITH THE RESISTOR MARK TERMINATING THE RESPECTIVE SIGNAL NAME. THE NUMBER LISTED UNDER "PIN" REPRESENTS THE TERMINATING PIN FOR THAT SIGNAL.
3. THIS TABLE SHOWS THE INTEGRATED CIRCUITS COMPOSING EACH SEGMENT OF THE SKIPPY STRING. THE NUMBERS FOLLOWING THE UNDERLINES REPRESENT THE NUMBER OF REPRESENTS THE BIT NUMBERS OF THE INTEGRATED CIRCUIT THAT ARE PRESENT IN THAT SEGMENT. IF NO BIT NUMBERS ARE GIVEN, SUCH AS "LOOK", THEN ALL OF THE OUTPUT BITS, 0-3, ARE PRESENT IN THAT SEGMENT. IF THE BIT NUMBERS ARE GIVEN, THEY ARE IN PARENTHESES, SUCH AS "(8)". GIVE THE NUMBER OF BITS THAT ARE PRESENT IN THAT SEGMENT OF THE SKIPPY STRING. THE SEGMENTS WITH NO SUCH NUMBERS HAVE THE NUMBER OF REPRESENTS SUPPLIED. THE "4" OR "8" SPECIFIES IF THE NUMBER IS REPRESENTED IN A HEX OR A BINARY NUMBER.
4. UNLESS OTHERWISE NOTED, ALL INTEGRATED CIRCUITS IN THE SKIPPY STRING ARE 800-0012. BIT 0+PIN 3, BIT 1+PIN 2, BIT 2+PIN 15, BIT 3+PIN 14.

SIGNAL	PACK	PIN	SIGNAL	PACK	PIN	SIGNAL	PACK	PIN	SIGNAL	PACK	PIN	SIGNAL	PACK	PIN	SIGNAL	PACK	PIN	SIGNAL	PACK	PIN	SIGNAL	PACK	PIN	SIGNAL	PACK	PIN	SIGNAL	PACK	PIN		
ABORTB*	R21	7	ADR18	R124	6	BTAG14	R116	7	CAR03	R70	2	CLRB	R9	6	ERR	R104	4	NEWPARB*	R21	6	SNDWRD*	R124	7	WASS2	R7	7					
ABORTB*	R66	2	ADR19	R116	5	BTAG15	R125	2	CAR04	R70	7	CHISSR*	R46	2	FAILI	R60	8														
ABORTB*	R11T	2	ADR20	R125	6	BTAG16	R125	8	CAR05	R70	6	COMPAD*	R85	6	FLUSH	R115	4	NK11	R11D	4	SRIP	R22	6	WASS2	R7	7					
ADATAP0H5	R44	7	ADR21A	R97	4	BTAG17	R124	8	CAR06	R70	4	COMPAD*	R85	7	FLUSH	R1D	5	NL14	R127	5	START	R67	7	WETAGB*	R76	4					
ADATAP1H5	R43	8	ADR21B	R102	7	BTAG18	R124	2	CAR07	R61	5	COMPRI*	R89	7	FNDERR*	R126	3	NLRR*	R72	8	STATDA*	R36	8	WETAGB*	R11D	3					
ADATAP0H5	R43	8	ADR22A	R97	6	BTAG19	R64	5	CAR08	R61	6	CSHFR*	R119	5	PP6	R121	6	HLRBE	R63	5	STATDE*	R49	4	WFB	R69	2					
ADATAP0H5	R43	8	ADR22B	R102	6	BTAG20	R64	5	CAR09	R131	6	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	7	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR22C	R97	1	BUSC*	R56	6	CAR10	R121	5	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR22D	R97	1	BUSC*	R56	6	CAR11	R113	2	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR22E	R97	1	BUSC*	R56	6	CAR12	R113	3	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR22F	R97	1	BUSC*	R56	6	CAR13	R113	4	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR22G	R97	1	BUSC*	R56	6	CAR14	R113	5	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR22H	R97	1	BUSC*	R56	6	CAR15	R113	6	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR22I	R97	1	BUSC*	R56	6	CAR16	R113	7	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR22J	R97	1	BUSC*	R56	6	CAR17	R113	8	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR22K	R97	1	BUSC*	R56	6	CAR18	R113	9	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR22L	R97	1	BUSC*	R56	6	CAR19	R113	10	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR22M	R97	1	BUSC*	R56	6	CAR20	R113	11	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR22N	R97	1	BUSC*	R56	6	CAR21	R113	12	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR22O	R97	1	BUSC*	R56	6	CAR22	R113	13	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR22P	R97	1	BUSC*	R56	6	CAR23	R113	14	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR22Q	R97	1	BUSC*	R56	6	CAR24	R113	15	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR22R	R97	1	BUSC*	R56	6	CAR25	R113	16	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR22S	R97	1	BUSC*	R56	6	CAR26	R113	17	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR22T	R97	1	BUSC*	R56	6	CAR27	R113	18	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR22U	R97	1	BUSC*	R56	6	CAR28	R113	19	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR22V	R97	1	BUSC*	R56	6	CAR29	R113	20	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR22W	R97	1	BUSC*	R56	6	CAR30	R113	21	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR22X	R97	1	BUSC*	R56	6	CAR31	R113	22	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR22Y	R97	1	BUSC*	R56	6	CAR32	R113	23	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR22Z	R97	1	BUSC*	R56	6	CAR33	R113	24	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR23A	R97	1	BUSC*	R56	6	CAR34	R113	25	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR23B	R97	1	BUSC*	R56	6	CAR35	R113	26	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR23C	R97	1	BUSC*	R56	6	CAR36	R113	27	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR23D	R97	1	BUSC*	R56	6	CAR37	R113	28	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR23E	R97	1	BUSC*	R56	6	CAR38	R113	29	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR23F	R97	1	BUSC*	R56	6	CAR39	R113	30	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
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ADATAP0H5	R43	8	ADR23I	R97	1	BUSC*	R56	6	CAR42	R113	33	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR23J	R97	1	BUSC*	R56	6	CAR43	R113	34	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
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ADATAP0H5	R43	8	ADR23P	R97	1	BUSC*	R56	6	CAR49	R113	40	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
ADATAP0H5	R43	8	ADR23Q	R97	1	BUSC*	R56	6	CAR50	R113	41	CSHFR*	R117	7	PP6	R121	6	HLRBE	R63	5	STATLRH1	R121	4	WFB	R118	8					
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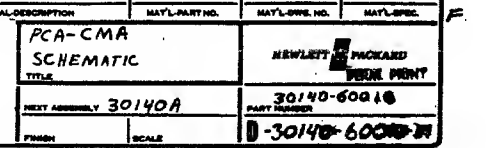
REF DWG: R50 DATE CODE IN  
D-SI THRU DSS SCHWARTZ



- NOTES:
- UNLESS OTHERWISE SPECIFIED:  
ALL RESISTANCE IN OHMS  
RESISTOR NETWORKS ARE 68 OHMS  
ALL CAPACITANCE IN MICROFARADS  
ALL CAPACITORS ARE .01UF (0160-5352)  
ALL IC'S ARE 1820-
  - INSTALL ITEM (A)
  - INSTALL ITEM (B)
  - MASK AS INDICATED PRIOR TO LOADING
  - ALL BOARD LOADING & HANDLING MUST BE DONE AT ANELECTROSTATIC DISCHARGE PROTECTED WORK STATION CONTAINING TABLE FLOOD MATS, GROUNDED WARM THERM. TRANSFORMERS, & ELEVATED ELECTROSTATIC DISCHARGE PROTECTED BAGS.
  - USE SUPPORT FIXTURE DURING WAVE SOLDER.
  - LOAD 16 PIN SOCKETS AS INDICATED, XU---, ETC. LOAD IC'S IN TOUCHUP.
  - INSTALL ITEMS (C) & (D) IN TOUCHUP.
  - PRETEST REQUIRED ON THE QUEST TEST SYSTEM.
  - USING AN OHM/METER, CHECK FOR A RESISTANCE OF GREATER THAN 25 OHMS BETWEEN THESE POINTS. DO NOT USE A CONTINUITY LIGHT.
  - INSPECT UN CRITERIA-HP STD. SECT 410
  - THIS ASSY DWG, F-1, IS GOOD FOR BOTH REV A & B BOARDS.

12	1	LABEL - DATE CODE	9320-5320
11	1	LABEL - SERIAL NUMBER	9320-4848
10	3	TERM - TEST POINT	0300-0294
9	1	CONN - POST 50M RR	1251-8934
8	1	LBI - WARR DATE CD	1121-2120
7	1	LABEL	1121-2120
6	2	BRACE	5040-6038
5	1	DRILL	5040-6038
4	1	SCREW 4-40	5040-9804
3	1	EXTRACTOR	1480-0116
2	2	BN	30140-60010
1	1	PCB-CMA	30140-60010

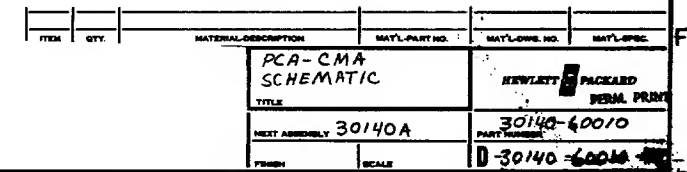
PCA - CMA	NEWLETT & PACKARD
ASSY DWG	30140A
REV A	REV A
30140A	30140-60010
1.5:1	F-30140-60010-1











REF 210 1/1/73  
 1-30140-60010-58  
 1-50 DATE 10/1/73

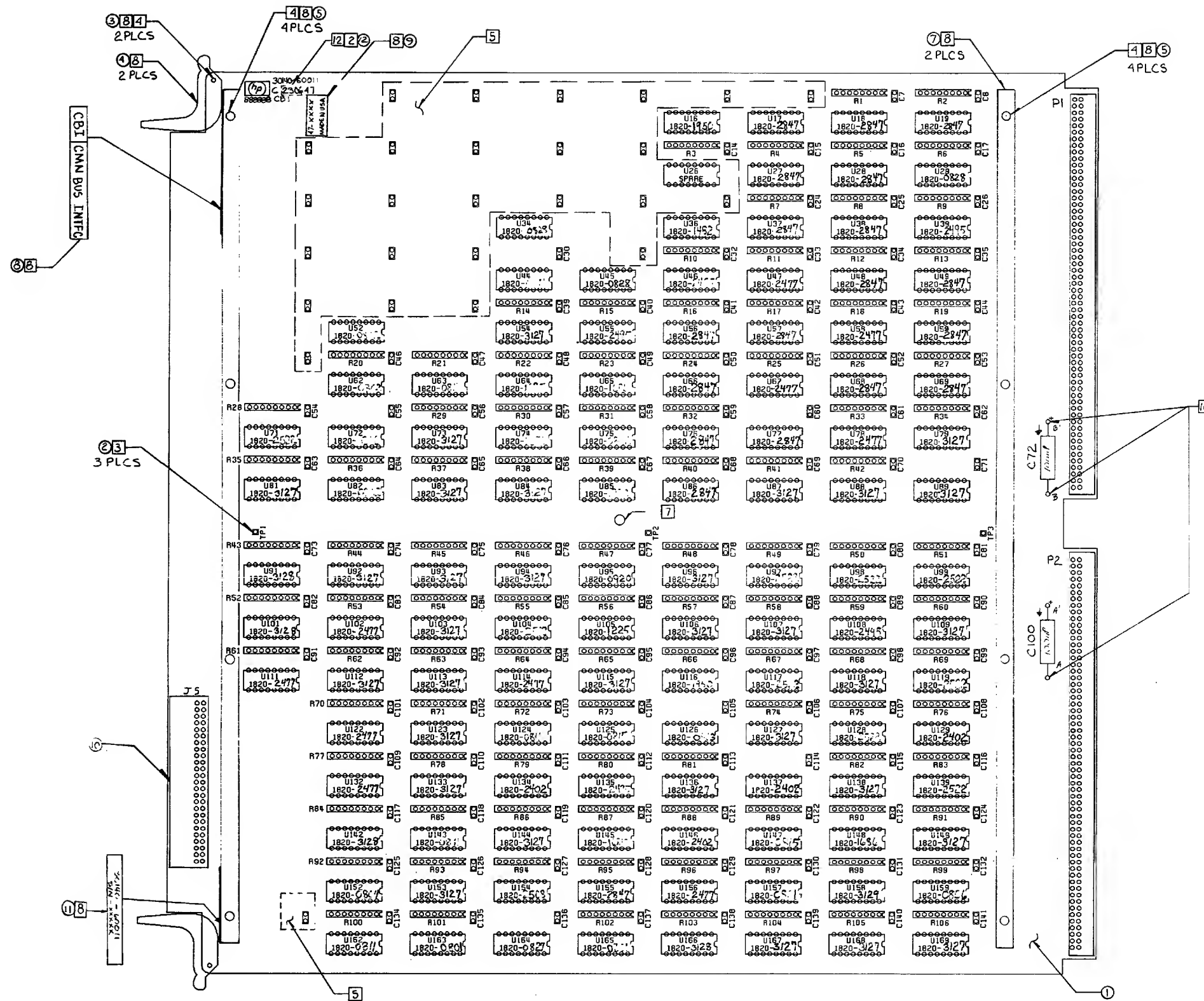
ENGINEERING RESPONSIBILITY										REVISIONS										30140-60010-58									
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AS ISSUED PER REV 17-8-74																													

SIGNAL	PACK PIN	SIGNAL	PACK PIN	SIGNAL	PACK PIN	SIGNAL	PACK PIN	SIGNAL	PACK PIN
ALOD001	R64 3	BLOD031	R81 8	DATAIR06	R57 6	ICB05	R12 8	ICBJ2	R18 4
ALOD016	R55 5	BLOWE*	R77 6	DATAIR07	R75 6	ICB07	R12 7	ICBJ3	R9 5
ALOD017	R52 3	BLOWE*	R24 8	DATAIR08	R5 2	ICB08	R12 6	ICBJ4	R9 6
ALOD018	R55 6	BLOWE*	R30 4	DATAIR09	R24 4	ICB09	R12 5	ICBP5	R9 7
ALOD019	R90 7	SUPDO00	R64 7	DATAIR10	R15 2	ICB00	R13 2	ICBJ6	R18 8
ALOD020	R73 5	SUPDO00	R73 2	DATAIR11	R25 3	ICB01	R4 3	ICBJ7	R18 7
ALOD021	R73 3	SUPDO01	R56 2	DATAIR12	R16 3	ICB02	R13 4	ICBJ8	R18 6
ALOD022	R55 4	SUPDO02	R92 8	DATAIR13	R70 8	ICB03	R4 5	ICBJ9	R18 5
ALOD023	R80 7	SUPDO03	R64 2	DATAIR14	R17 2	ICB04	R4 6	ICB0	R37 6
ALOD024	R85 5	SUPDO04	R80 2	DATAIR15	R78 6	ICB05	R13 8	ICB10	R38 5
ALOD025	R85 3	SUPDO05	R80 4	DATAIR16	R20 2	ICB06	R13 7	ICB2	R47 7
ALOD026	R91 4	SUPDO06	R84 4	DATAIR17	R64 6	ICB07	R13 5	ICB4	R57 7
ALOD027	R91 7	SUPDO07	R84 6	DATAIR18	R21 2	ICB08	R14 2	ICB5	R47 6
ALOD028	R74 5	SUPDO08	R56 3	DATAIR19	R74 4	ICB09	R14 3	ICB6	R56 7
ALOD029	R74 3	SUPDO09	R55 2	DATAIR20	R66 2	ICB10	R14 4	ICB7	R39 6
ALOD030	R81 5	SUPDO10	R91 5	DATAIR21	R66 2	ICB11	R5 3	ICB8	R48 7
ALOD031	R81 7	SUPDO11	R65 3	DATAIR22	R67 5	ICB12	R5 2	ICB9	R48 6
ALONE*	R76 6	SUPDO12	R81 6	DATAIR23	R67 4	ICB13	R5 7	ICB0	R73 8
ALNE*	R24 5	SUPDO13	R81 4	DATAIR24	R24 2	ICB14	R14 8	ICB1	R64 8
ALNE*	R28 5	SUPDO14	R85 4	DATAIR25	R24 2	ICB15	R14 7	ICB2	R64 7
AUPDO0	R64 5	SUPDO15	R85 6	DATAIR26	R25 2	ICB16	R14 6	ICB3	R64 6
AUPDO00	R90 5	SUPDO*	R77 5	DATAIR27	R25 8	ICB17	R14 5	ICB4	R64 5
AUPDO01	R90 3	SUPDO*	R39 2	DATAIR28	R70 5	ICB18	R14 4	ICB5	R64 4
AUPDO02	R90 6	SUPDO*	R28 4	DATAIR29	R70 4	ICB19	R14 3	ICB6	R64 3
AUPDO03	R90 8	CDL0	R46 7	DATAIR30	R71 5	ICB20	R14 2	ICB7	R64 2
AUPDO04	R80 5	COB1	R66 4	DATAIR31	R78 2	ICB21	R6 3	ICB8	R64 1
AUPDO05	R80 3	COB2	R69 7	ENBFRM	R57 4	ICB22	R15 4	ICB9	R64 0
AUPDO06	R84 5	CDL0	R55 8	FRMIMO	R69 2	ICB23	R6 5	ICB0	R64 0
AUPDO07	R84 7	CDL0	R66 8	FRMIMO	R77 3	ICB24	R6 6	ICB1	R64 0
AUPDO08	R91 3	CDL0	R69 8	FRMIMO	R70 3	ICB25	R6 7	ICB2	R64 0
AUPDO09	R91 2	CDL0	R55 7	ICB0	R1 2	ICB26	R15 8	ICB3	R64 0
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AUPDO14	R85 2	CFREE	R30 8	ICB5	R1 7	ICB31	R15 3	ICB8	R64 0
AUPDO15	R85 7	CFREE	R19 5	ICB6	R10 8	ICB32	R15 2	ICB9	R64 0
AUPDO*	R76 5	CLKA	R82 5	ICB7	R10 7	ICB33	R15 1	ICB0	R64 0
AUPDO*	R5 5	CLKB	R77 8	ICB8	R10 6	ICB34	R15 0	ICB1	R64 0
AUPDO*	R9 4	CLKC	R87 5	ICB9	R10 5	ICB35	R14 9	ICB2	R64 0
BLOD0P1	R64 4	CLKD	R82 6	ICB0	R10 4	ICB36	R14 8	ICB3	R64 0
BLOD016	R84 2	CHACK	R86 4	ICB1	R11 3	ICB37	R14 7	ICB4	R64 0
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BLOD018	R90 4	CHACK	R78 8	ICB3	R2 5	ICB39	R14 5	ICB6	R64 0
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BLOD021	R73 4	CHACK	R82 7	ICB6	R11 8	ICB42	R14 2	ICB9	R64 0
BLOD022	R80 8	CHACK	R93 8	ICB7	R11 7	ICB43	R14 1	ICB0	R64 0
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D-51 THRU D-56 SCHEM.

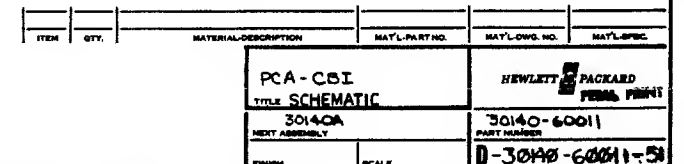
F-30140-60011-4			
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100	REMOVED NOTE 4 FROM THE PCB FOR	12/3/83	12/3/83



- NOTES
- UNLESS OTHERWISE SPECIFIED:  
ALL RESISTANCE IN OHMS  
RESISTORS NETWORKS ARE 68 OHME  
ALL CAPACITANCE IN MICROFARADS  
ALL CAPACITORS ARE 0.1uF (0160-5352)  
ALL IC'S ARE 1820-
  - INSTALL ITEM ②
  - INSTALL ITEM ③ PLACES
  - MASK AS INDICATED PRIOR TO LOADING
  - DO NOT MASK OR LOAD COMPONENTS IN ENCLOSED AREA
  - ALL LOADING AND BOARD HANDLING MUST BE DONE WITH GROUNDED WRIST STRAP. THIS ASSEMBLY MUST BE TRANSPORTED IN AN ELECTROSTATIC DISCHARGE PROTECTIVE BAG.
  - USE SUPPORT FIXTURE DURING WAVE SOLDER.
  - INSTALL ITEMS ⑧
  - PRETEST REQUIRED ON THE GUEST SYSTEM.
  - USING AN OHMMETER, CHECK FOR A RESISTANCE OF GREATER THAN 25 OHMS BETWEEN THESE POINTS. DO NOT USE A LITMUS PAPER STRIP ON THIS ASSEMBLY.
  - INSPECTION CRITERIA-HP STD SECT 410
  - THIS ASSY. DWG. F-30140-60011-4 IS THE 30TH REV OF C. BOARD

ITEM	QTY	DESCRIPTION	DATE	BY
1	1	LABEL - DATE CODE	12-3-83	12/3/83
2	1	LABEL - SERIAL NUMBER	12-3-83	12/3/83
3	1	LABEL - PART NO	12-3-83	12/3/83
4	1	LABEL - WORK DATE CODE	12-3-83	12/3/83
5	1	LABEL	12-3-83	12/3/83
6	1	BRACE	12-3-83	12/3/83
7	1	SCREW 4-40	12-3-83	12/3/83
8	1	EXTRACTOR	12-3-83	12/3/83
9	1	MIN	12-3-83	12/3/83
10	1	TERM - TEST POINT	12-3-83	12/3/83
11	1	PCB CBI	12-3-83	12/3/83

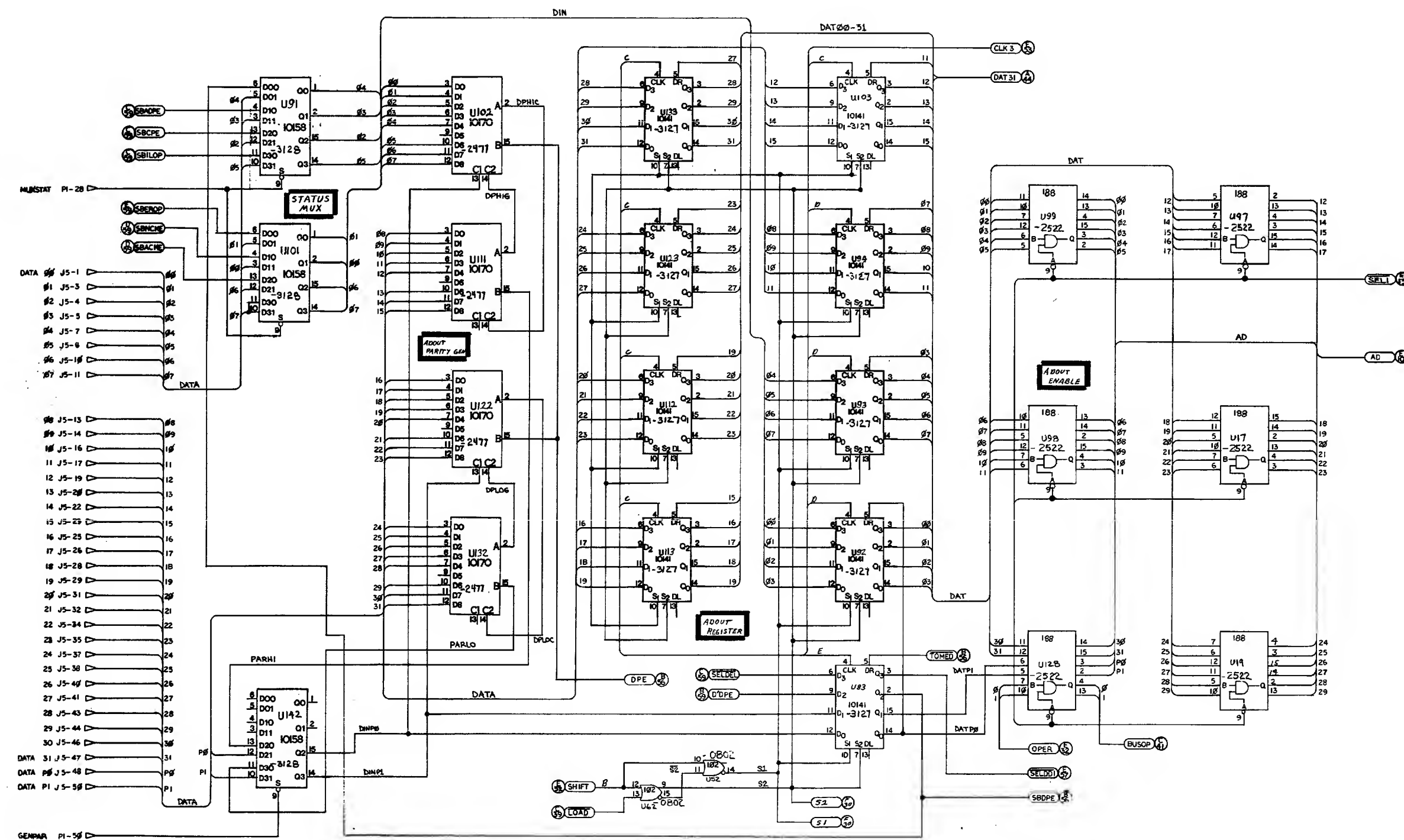
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1	1	PCA-CBI	12-3-83	12/3/83
2	1	ASSY DWG	12-3-83	12/3/83
3	1	30140A	12-3-83	12/3/83
4	1	30140-60011	12-3-83	12/3/83
5	1	F-30140-60011-4	12-3-83	12/3/83





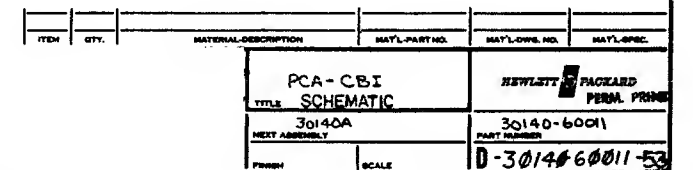
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A-50 DATE CODE INFO.  
D-51, D-53 THRU D-56 SCHEM.

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16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		B	REVISED & REDRAWN PER PGO 47-348	JUL 81	10/8/81
32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47		C	REVISED PER PGO 47-3545	11/11/81	4/8/82
48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63		D	REVISED PER PGO 47-3179	JAN 82	3/30/82



ITEM	QTY	MATERIAL DESCRIPTION	MAT'L PART NO	MAT'L DNG NO	MAT'L SPEC
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TITLE SCHEMATIC					
30140A					
NEXT NUMBER					
FINISH					
SCALE					
HEWLETT-PACKARD					
PERM. PRINT					
30140-60011					
D-30140-60011-52					

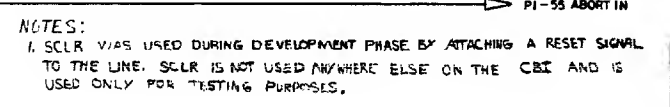





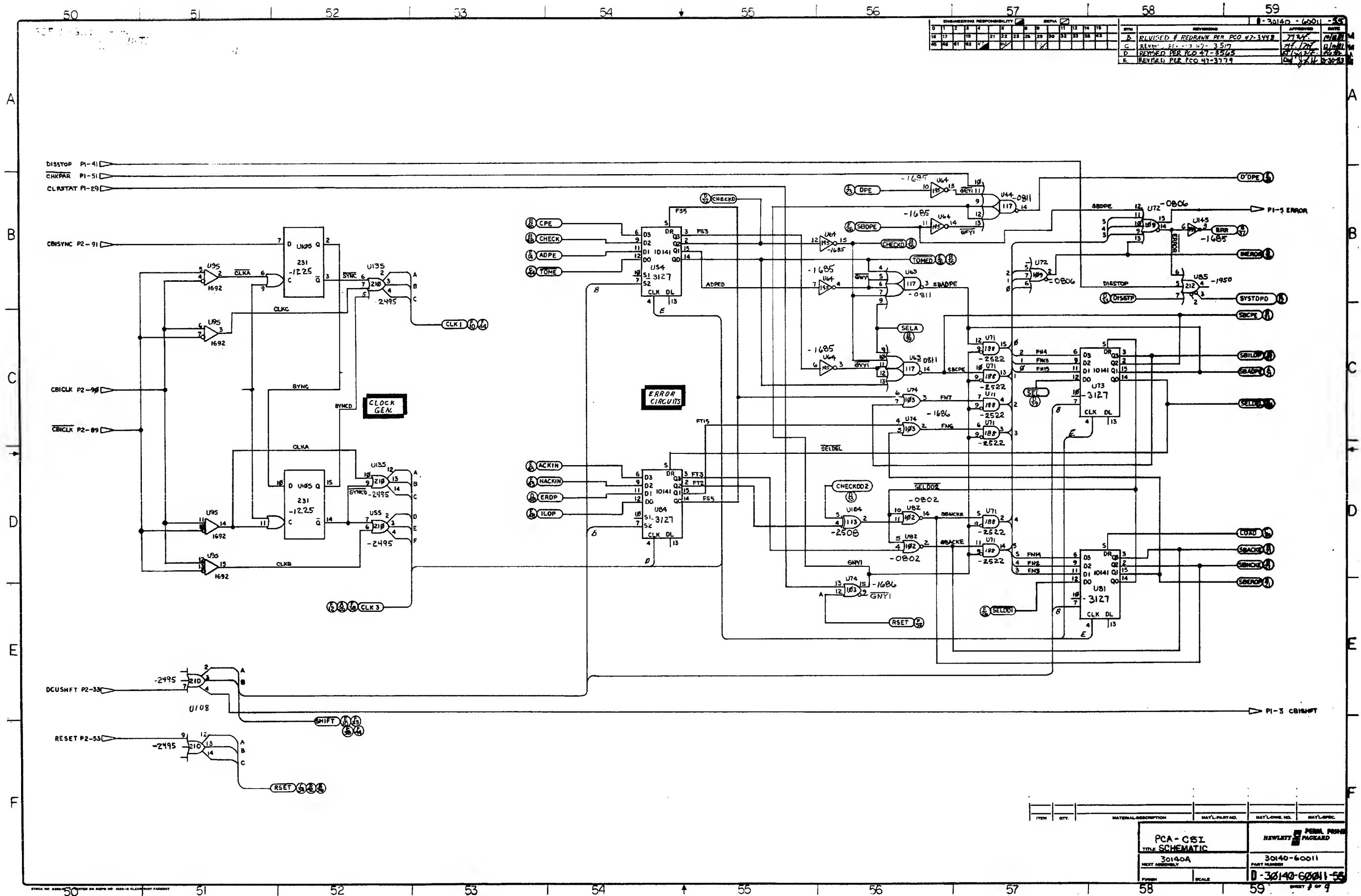
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ENGINEERING RESPONSIBILITY																SEPA																- 30140 - 60011 - 54															
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SYM	REVISIONS																									APPROVED					DATE					
	C	REVISED & REDRAWN PER PCO 47-3743																									MIL					11/18/74				
	D	REVISED PER PCO 47-3545																									DWM					11/22/74				
	E	REVISED PER PCO 47-3743																									DWM					11/22/74				
	F	Added Note #1 per DCS CHS.																									DWM					11/22/74				



ITEM	QTY	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L QWG. NO.	MAT'L SPEC.		
PCA-CBI TITLE SCHEMATIC 30140A NEXT ASSEMBLY			HEWLETT  PACKARD 74754 30140-60011 PART NUMBER D-30140-60011-54				
FINISH			SCALE				



REVISIONS															
REV.	BY	DATE	DESCRIPTION	REV.	BY	DATE	DESCRIPTION	REV.	BY	DATE	DESCRIPTION	REV.	BY	DATE	DESCRIPTION
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ITEM	QTY.	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L QTY.	MAT'L SPEC.
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3		30140-60011			
4		30140-60011-55			

ENGINEERING RESPONSIBILITY <input checked="" type="checkbox"/> DEPIA <input checked="" type="checkbox"/>																		1-3040-60011-56									
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	STN	REVISIONS	APPROVED	DATE					
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	A	AS ISSUED PER RCD 47-3448	MLK	10/1/81					

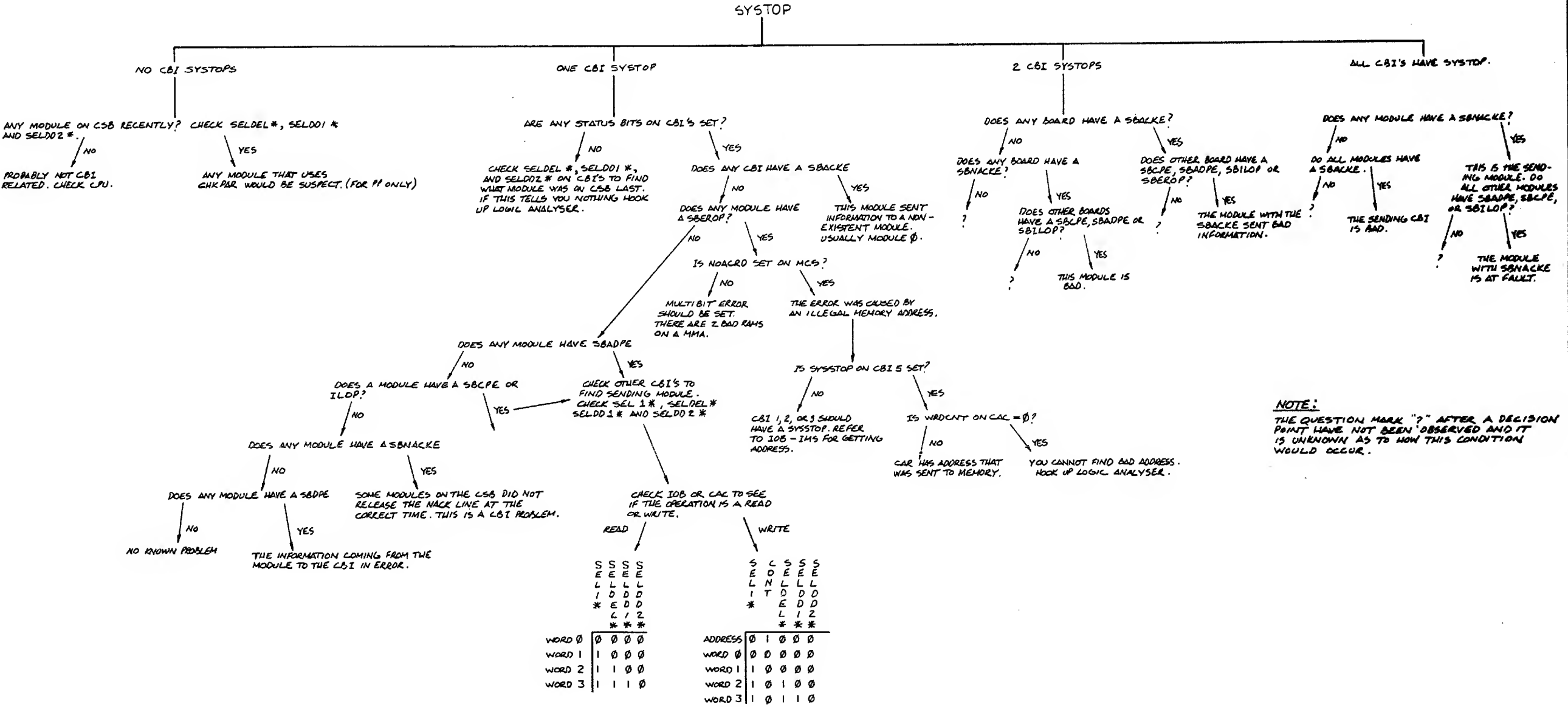
NOTES:

- 1 SIGNAL NAME REFERS TO SIGNAL LINE BEING TERMINATED BY THE RESPECTIVE REGISTER. (SEE NOTE 2)
- 2 THE NUMBER LISTED UNDER "PAC# REPRESENTS THE REFERENCE DESIGNATOR ASSOCIATED WITH THE REGISTER PACK TERMINATING THE RESPECTIVE SIGNAL NAME. THE NUMBER LISTED UNDER "PIN# REPRESENTS THE TERMINATING PIN FOR THAT SIGNAL.
- 3 THIS TABLE SHOWS THE INTEGRATED CIRCUITS COMPRISING EACH SEGMENT OF THE SHIFT STRING. THE NUMBERS FOLLOWING THE LOCK NO. SUCH AS "LOCK 0-1", REPRESENTS THE BIT NUMBERS OF THE INTEGRATED CIRCUIT THAT ARE PRESENT IN THAT SEGMENT. IF NO BIT NUMBERS ARE GIVEN, SUCH AS "LOCK STRING", THEN ALL OF THE OUTPUT BITS, 0-3, ARE PRESENT IN THE SHIFT STRING SEGMENT. THE "A" OR "B" SPECIFICS IF THE SEGMENT IS REPRESENTED BY A HEX OR A BINARY NUMBER.
- 4 UNLESS OTHERWISE NOTED, ALL INTEGRATED CIRCUITS IN THE SHIFT STRING ARE 1082-0025. BIT 0=PIN 3, BIT 1=PIN 2, BIT 2=PIN 15, BIT 3=PIN 14.
- 5 THE TABLE LABELED "POWER AND GROUND" IDENTIFY THE CAPACITORS AND RESISTORS CONNECTED TO THE SPECIFIC POWER AND GROUND PIN VALUES. (SEE ASSEMBLY DRAWING FOR LOCATIONS OF THESE CAPACITORS AND RESISTORS.)

ITEM	QTY.	MATERIAL DESCRIPTION	MAT'L PART NO	MAT'L QTY. NO.	MAT'L SPEC.
		PCA - CBI SCHEMATIC - RESISTOR SHIFT STRING & VOLTAGE TITLE PLANE 6111265			
		30140A		30140 - 60011	
		NEXT ASSEMBLY		PART NUMBER	
		POUCH	SCALE	D - 30140 - 60011 - 54	

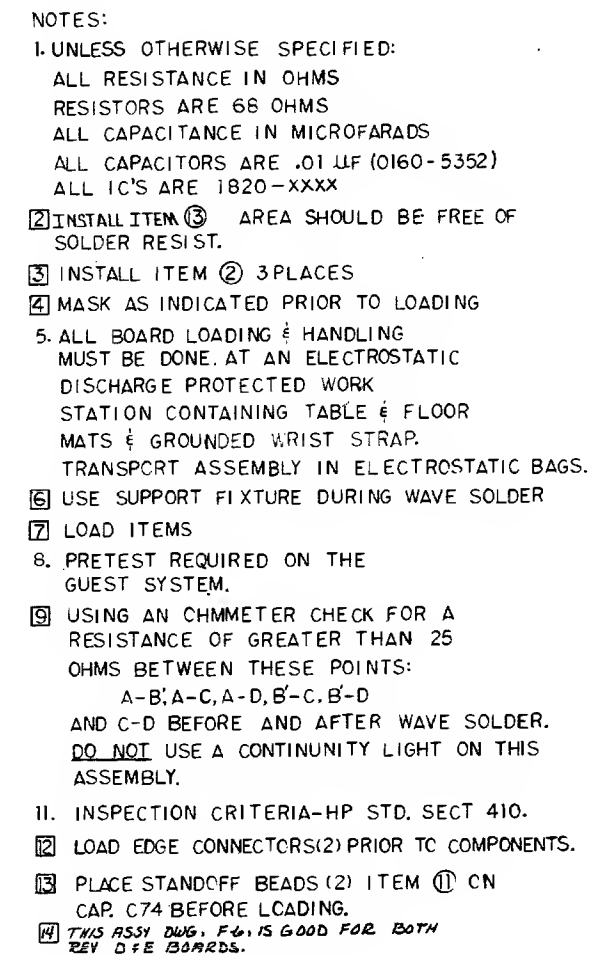
REF. DWGS: F-4 ASSY.  
A-50 DATE CODE INFO.  
D-51 THRU D-56 SCHEM.

ENGINEERING RESPONSIBILITY																DATE	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	APPROVED	DATE
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	7/1/78	2-1082



ITEM	QTY.	NATIONAL DESCRIPTION	DATE/REV. NO.	DATE/REV. NO.	DATE/REV. NO.
PCA - CBI SYSTOP DELISION TREE					
TITLE			HEWLETT PACKARD		
30140 A, 30143 A			30140 - 60011		
PART NUMBER			30140 - 60011 - 51		
FURNISH			SCALE		

FD-302 (Rev. 11-27-70) (Use separate pages for each page)												
F-30140 - 80012-6												
<div style="display: flex; justify-content: space-between;"> <div> <p>NAME: [redacted]</p> <p>DATE OF BIRTH: [redacted]</p> <p>DATE OF INTERVIEW: [redacted]</p> <p>INTERVIEWED BY: [redacted]</p> </div> <div> <p>REPORT MADE AT: [redacted]</p> <p>DATE OF REPORT: [redacted]</p> <p>REPORT MADE BY: [redacted]</p> </div> </div>												
A	1	2	3	4	5	6	7	8	9	10	11	12
B	1	2	3	4	5	6	7	8	9	10	11	12
C	1	2	3	4	5	6	7	8	9	10	11	12
D	1	2	3	4	5	6	7	8	9	10	11	12
E	1	2	3	4	5	6	7	8	9	10	11	12
F	1	2	3	4	5	6	7	8	9	10	11	12
G	1	2	3	4	5	6	7	8	9	10	11	12

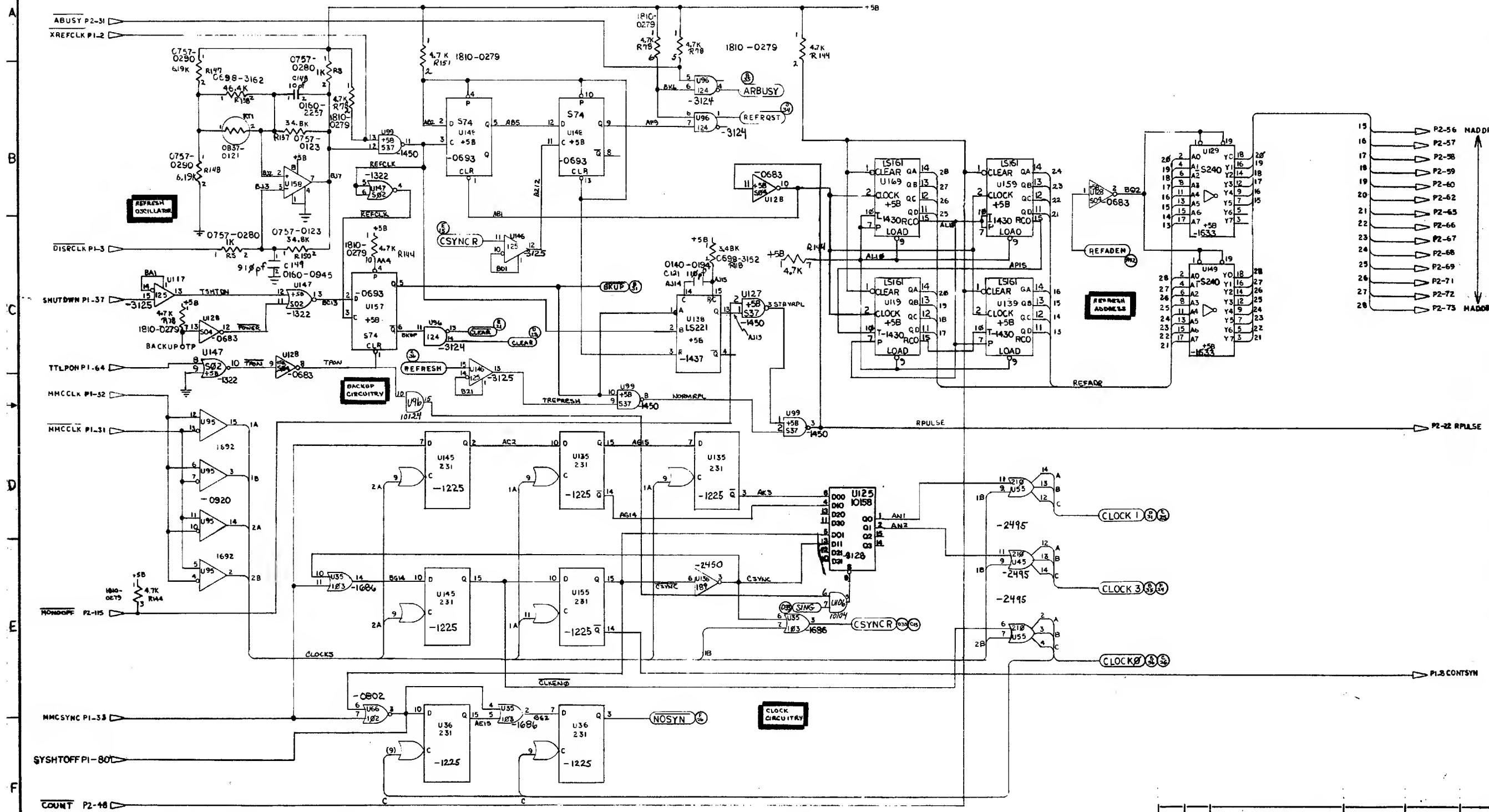


3	1	LABEL - DATE CODE	9320-5320		
2	2	CONN. RECEPTACLE 120F	120F-6911		
1	2	INDIAN BEADS	4330-0145		
10	1	LBL-SERIAL NO.	9320-4848		
9	1	LBL-WARR. DATE CD	7120-6830		
8	1	LABEL	7121-2113		
7	2	BRACE	5040-6058		
		Default			
5	8	SCREW 4-40	0924-0077		
4	2	EXTRACTOR	5040-9804		
3	2	PIN	1480-0116		
2	3	TERM-TESTPOINT	0360-0294		
1	1	PCB MMC	0040-6002		
ITEM	QTY	DESCRIPTION	PCB, PLATE 100	PCB, PLATE 100	PCB, PLATE 100
PCA MMC			PCA MMC		
ASSY DWG.			ASSY DWG.		
30140A			30140-6002		
HEAT SINKING			HEAT SINKING		
F-30140-60012-6			F-30140-60012-6		



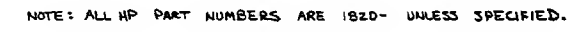
REF. DWG5.: F-4 ASSY.  
A-50 DATE CODE INFO.  
D-52, D-53 SCHEM.


REV	DATE	BY	CHKD	APPD
1	10/1/71	WJ	WJ	WJ
2	10/1/71	WJ	WJ	WJ
3	10/1/71	WJ	WJ	WJ
4	10/1/71	WJ	WJ	WJ
5	10/1/71	WJ	WJ	WJ



NOTE: ALL HP PART NUMBERS ARE 1820- UNLESS SPECIFIED.

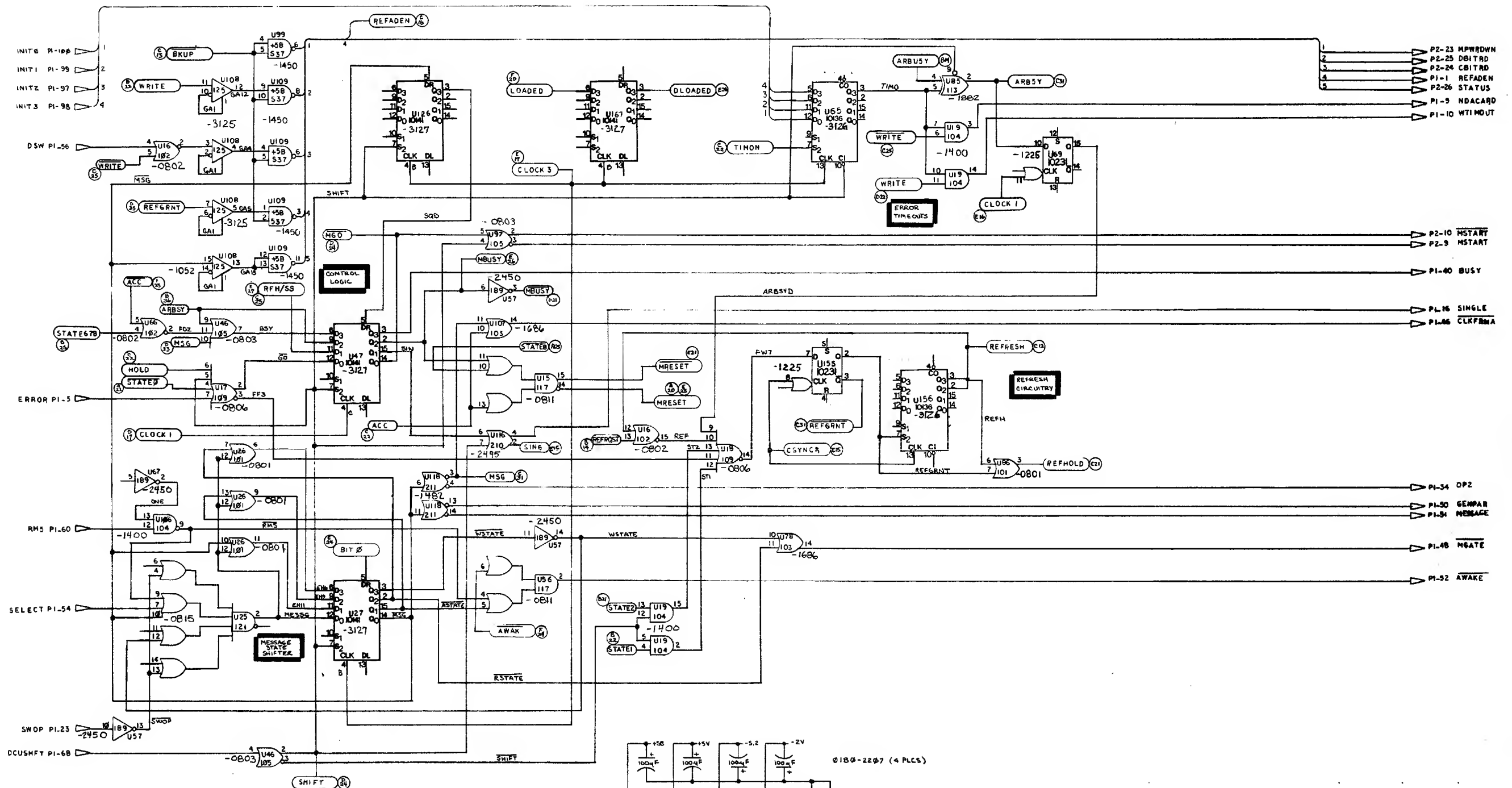
ITEM	QTY	MATERIAL DESCRIPTION	MATL PART NO.	MATL QTY NO.	MATL PRICE
PCA-MMC SCHEMATIC					
TITLE: 30140A					
NEXT ASSY: 30140-10002					
PART NO: 30140-10002					



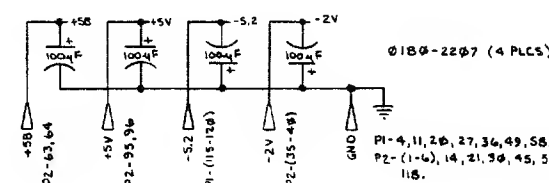
ITEM	QTY.	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L OWNS NO.	MAT'L SPEC.
RCA - MMC TITLE SCHEMATIC			HEWLETT  PACKARD		
NEXT ASSEMBLY 30140A			30140-00012		
FINISH			PART NUMBER D 30140-00012-52		
SCALE					

REF DWGS: F-4 ASSY  
A 50 DATE CODE INFO  
D-51, D-52 SCHEM

ENGINEERING RESPONSIBILITY																REVISIONS														DATE			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	B																1/18/78	
32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	C																1/18/78	
																D																1/18/78	



NOTE: ALL HP PART NUMBERS ARE 1820- UNLESS SPECIFIED.



ITEM	QTY	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L QTY NO.	MAT'L SPEC.
PCA - MMC SCHEMATIC					
30140A					
30140-60012					
30140-60012-58					

ENGINEERING RESPONSIBILITY <input checked="" type="checkbox"/>																		SPLA <input checked="" type="checkbox"/>																		1-30140 - 60012-54																	
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16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32																		33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50																		51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70																	
71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88																		89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108																		109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126																	
127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144																		145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162																		163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180																	
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235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252																		253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270																		271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288																	
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559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576																		577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594																		595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612																	
613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630																		631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648																		649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666																	
667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684																		685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702																		703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720																	
721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738																		739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756																		757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774																	
775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792																		793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810																		811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828																	
829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846																		847 848 849 850 851 852 853 854 855 85																																			

**POWER AND GROUND**

Component	Power	Ground
C46-1, C49-1, R49-1	C50-1, C72-1, R52-1	C58-1, C75-1, R55-1
C43-1, C48-1	C52-1, C56-1	C77-1
C2-1, C15-1, C23-1, C67-1, C65-1	C46-1, C18-1, C32-1, C48-1, C71-1	C5-1, C22-1, C35-1, C54-1, C73-1
R2-1, R5-1, R15-1, R22-1, R20-1, R36-1, R43-1, R53-1	R2-1, R5-1, R10-1, R17-1, R23-1, R30-1, R37-1, R44-1, R54-1	R9-1, R11-1, R19-1, R25-1, R32-1, R38-1, R45-1, R51-1
C1-1, C17-1, C30-1, C42-1	C3-1, C19-1, C31-1, C44-1	C7-1, C20-1, C33-1, C51-1
C1-2, C8-2, C18-2, C22-2, C28-2, C36-2, C40-2, C50-2, C57-2, C58-2, C61-2	C2-2, C10-2, C18-2, C23-2, C30-2, C37-2, C44-2, C51-2, C58-2, C62-2, C67-2, C75-2	C4-2, C11-2, C15-2, C24-2, C32-2, C39-2, C46-2, C53-2, C60-2, C68-2, C76-2
C63-1, C67-1, C12-1, C38-1, C39-1, C57-1, C14-1, C16-1, C45-1, C52-1	R5-1, R6-1, R13-1, R20-1, R27-1, R34-1, R41-1, R49-1	R12-1, R19-1, R25-1, R32-1, R38-1, R45-1, R51-1
C13-1, C29-1, C41-2, C70-1	C11-1, C27-1, C40-1, C51-1	C28-1, C34-2, C41-1, C48-2, C55-1, C62-2, C69-2, C72-2, C78-2

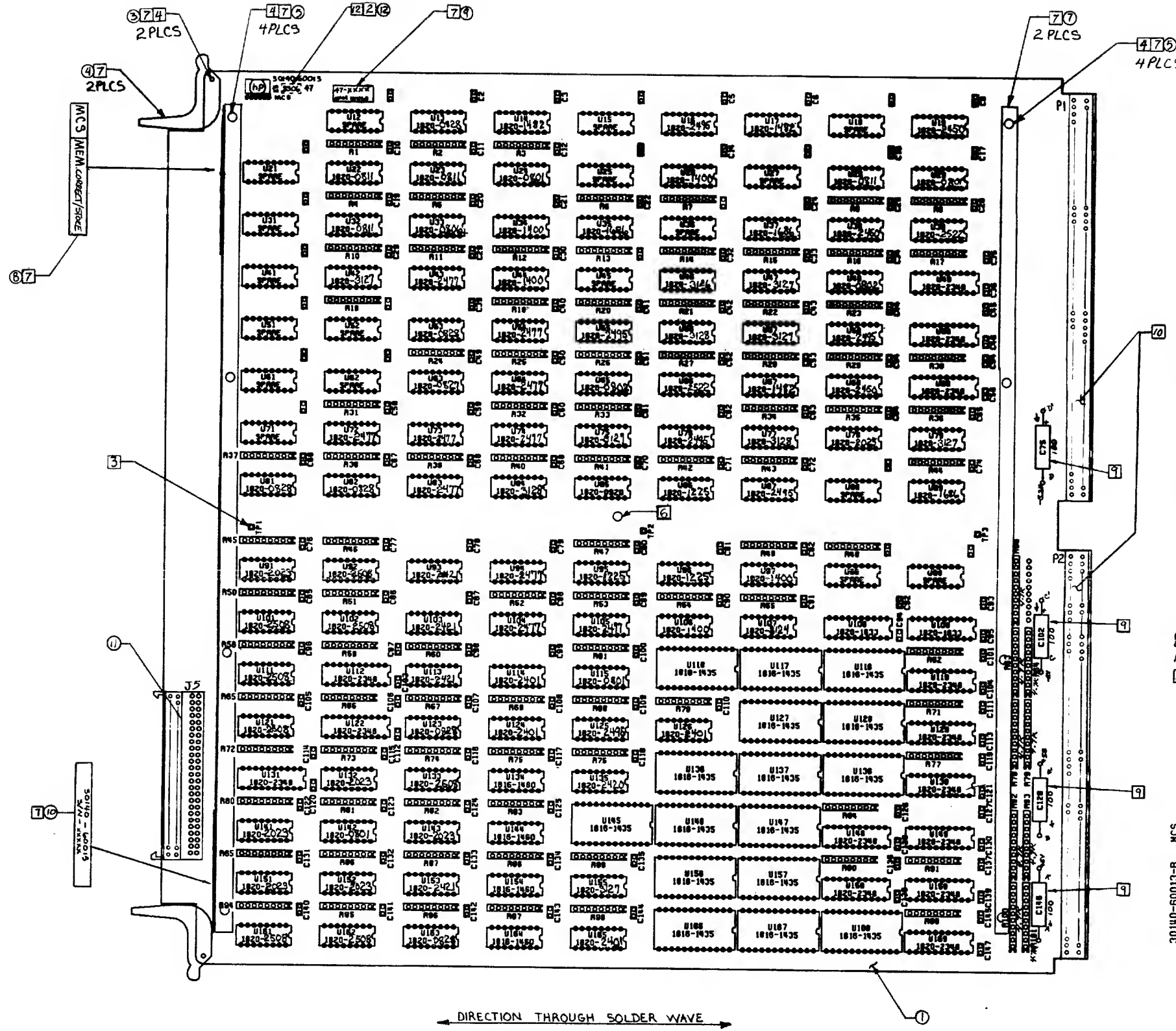
3 → SHIFT STRING DATA

4 → U75 0-3 U27 9 U27 2 U27 1 U27 0 U47 3 U47 2 U47 1 U47 0 U38 3 U38 2 U38 1 U38 0 U49 3 U48 2 U48 1 U48 0

- NOTES:
- 1 SIGNAL NAME REFERS TO SIGNAL LINE BEING TERMINATED BY THE RESPECTIVE RESISTOR. (SEE NOTE 2)
  - 2 THE ROOM NUMBER LISTED UNDER "PACH" REPRESENTS THE REFERENCE DESIGNATOR RESISTOR LOCATED IN THE RESISTOR PACK TERMINATING THE RESPECTIVE SIGNAL NAME. THE NUMBER LISTED UNDER "PIN" REPRESENTS THE TERMINATING PIN FOR THAT SIGNAL.
  - 3 THIS TABLE SHOWS THE INTEGRATED CIRCUITS COMPOSING EACH SEGMENT OF THE SHIFT STRING. THE NUMBERS FOLLOWING THE LOGIC NO. IN SUCH A "WOOD 0-1" REPRESENTS THE BIT NUMBERS OF THE INTEGRATED CIRCUIT THAT ARE PRESENT IN THAT SEGMENT. IF NO BIT NUMBERS ARE GIVEN, SUCH AS "WOOD", THEN ALL OF THE OUTPUT BITS, 0-3, ARE PRESENT IN THE SHIFT STRING SEGMENT. THE "1" OR "3" SPECIFIES IF THE SEGMENT IS REPRESENTED BY A HEX OR A BINARY.
  - 4 UNLESS OTHERWISE NOTED, ALL INTEGRATED CIRCUITS IN THE SHIFT STRING ARE 1820-0825. BIT 0=PIN 3, BIT 1=PIN 2, BIT 2=PIN 15, BIT 3=PIN 14.
  - 5 THE TABLE LABELED "POWER AND GROUND" IDENTIFY THE CAPACITORS AND RESISTOR PINS THAT CONNECT TO THE SPECIFIED POWER AND GROUND PLANES. THE TABLE LABELED "RESISTOR AND LOGIC" IDENTIFY THE CAPACITORS AND RESISTORS

[illegible]

REV	DATE	BY	CHKD	APPD	DESCRIPTION
1	7/21/71	WAS	WAS	WAS	WAS
2	7/21/71	WAS	WAS	WAS	WAS
3	7/21/71	WAS	WAS	WAS	WAS
4	7/21/71	WAS	WAS	WAS	WAS
5	7/21/71	WAS	WAS	WAS	WAS
6	7/21/71	WAS	WAS	WAS	WAS
7	7/21/71	WAS	WAS	WAS	WAS
8	7/21/71	WAS	WAS	WAS	WAS
9	7/21/71	WAS	WAS	WAS	WAS
10	7/21/71	WAS	WAS	WAS	WAS
11	7/21/71	WAS	WAS	WAS	WAS
12	7/21/71	WAS	WAS	WAS	WAS



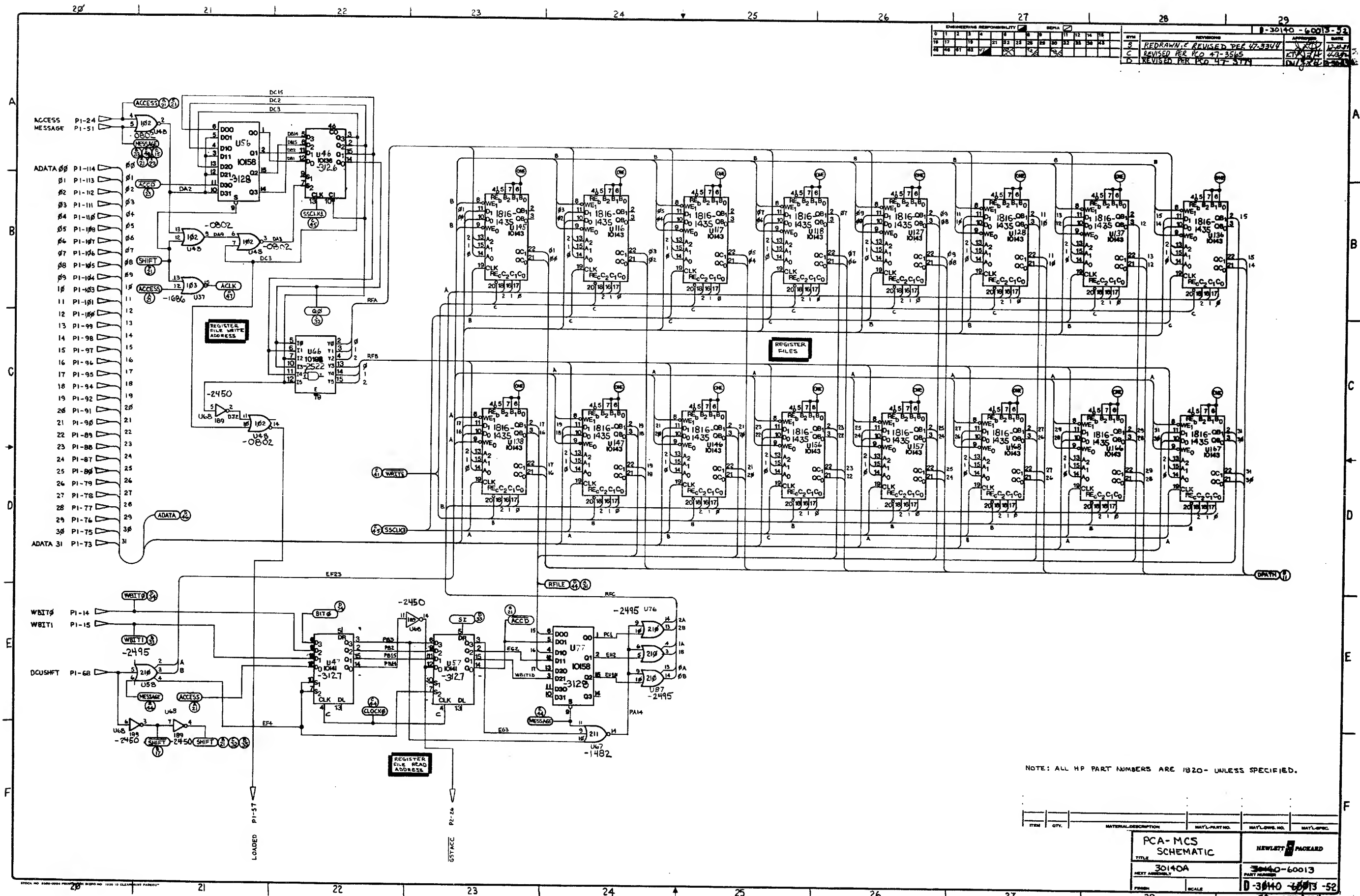
- NOTE:
- UNLESS OTHERWISE SPECIFIED:  
ALL RESISTANCE IN OHMS  
RESISTOR NETWORK ARE 68 OHMS  
ALL CAPACITANCE IN MICROFARADS  
ALL CAPACITORS ARE .01UF (0160-5352)  
ALL IC'S ARE 1820-
  - INSTALL ITEM 2
  - INSTALL ITEM 2 3 PLACES
  - MASK AS INDICATED PRIOR TO LOADING
  - ALL BOARD LOADING & HANDLING MUST BE DONE AT AN ELECTROSTATIC DISCHARGE PROTECTED WORK STATION CONTAINING TABLE & FLOOR MATS & GROUNDED WRIST STRAP. TRANSPORT ASSEMBLY IN ELECTROSTATIC BAGS.
  - USE SUPPORT FIXTURE DURING WAVE SOLDER
  - LOAD ITEMS 2, 4, and 6 IN TOUCH UP
  - PRETEST REQUIRED ON THE GUEST TEST SYSTEM.
  - USING AN OHMMETER CHECK FOR A RESISTANCE OF GREATER THAN 25 OHMS BETWEEN THESE POINTS. A-A', A-B', A-C, A-D, A'-B', A'-C, A'-D, B'-C, B'-D, AND C-D BEFORE AND AFTER WAVE SOLDERING. DO NOT USE A CONTINUITY LIGHT ON THIS ASSEMBLY.
  - LOAD THE CONNECTORS FIRST
  - INSPECTION CRITERIA - HP STD. SECT 410.
  - THIS ASSY DWG IS GOOD FOR BOTH REV B & C BOARDS.

REV	DATE	BY	CHKD	APPD	DESCRIPTION
12	1	LABEL - DATE CODE	932D-532D		
11	1	EDGE CONN. - 50 PIN	1251-2836		
10	1	LABEL - SERIAL NUMBER	932D-1446		
9	1	LBL-WARR DATE CD	7120-6830		
8	1	LABEL	7121-2118		
7	2	BRACE	5040-6058		
6	1	SCREW 4-40	0624-0077		
5	8	EXTRACTOR	5040-9801		
4	2	PIN	1480-0116		
3	2	STUD SOLDER TERM	0360-0371		
2	1	PCA-MCS			
1	1	ASSY. DWG.			

PCA-MCS ASSY. DWG. 30140A	30140-60013 F-30140-60013
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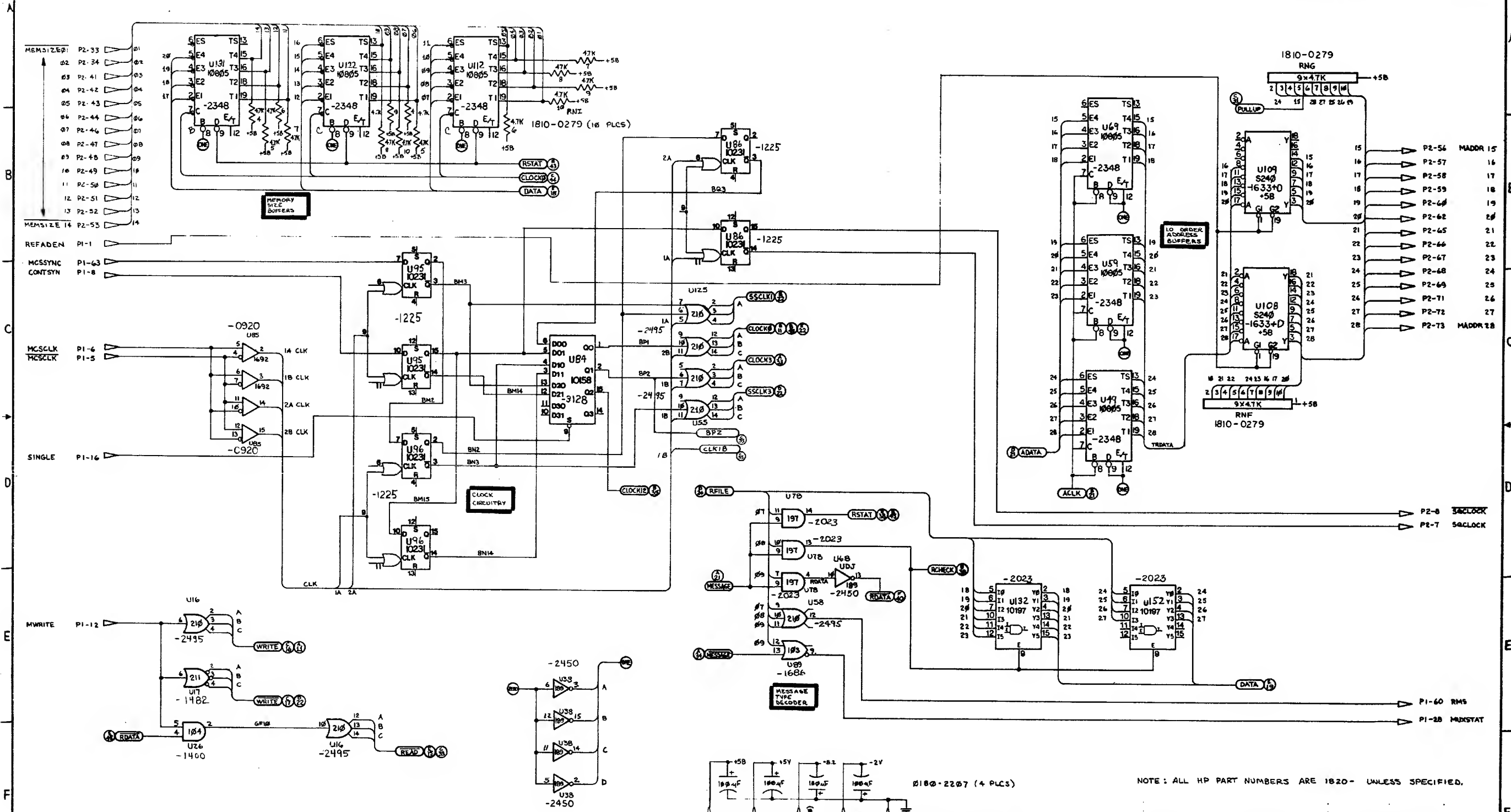
17. ENGINEERING RESPONSIBILITY																18. REVISIONS		19. 30140-60013-51	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	DATE	BY	CHKD	APPD
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	10/1/74	WJH	WJH	WJH
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48				
REVISIONS																30140-60013-51			
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REVISIONS												DATE											
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B REDRAWN & REVISED 47-3344												U741 12-80											
C REVISED PER PCO 47-3565												K78 3-11 1-80											
D REVISED PER PCO 47-3779												U712 5-30-83											



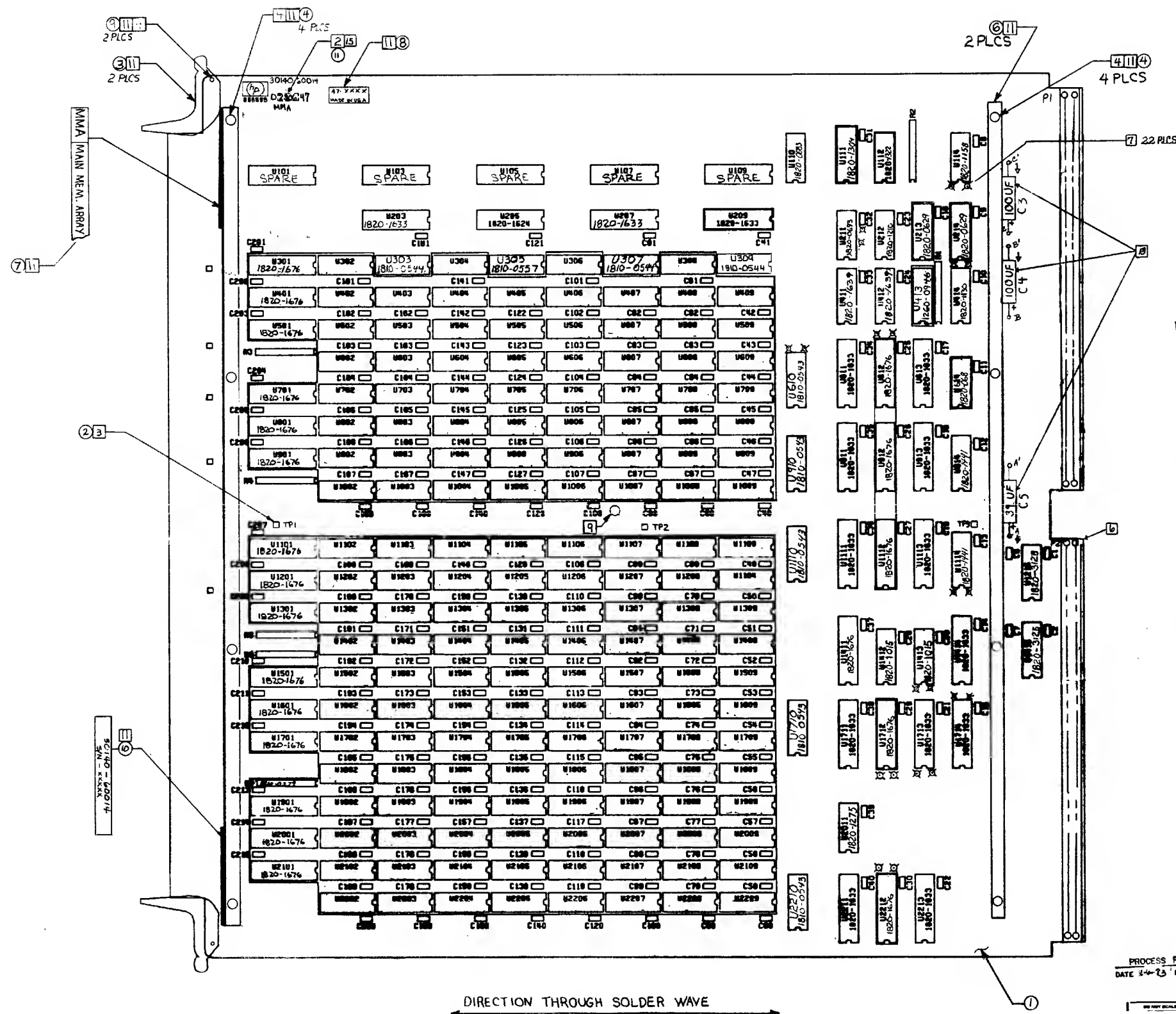
NOTE: ALL HP PART NUMBERS ARE 1820- UNLESS SPECIFIED.

ITEM	QTY.	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L LOWE NO.	MAT'L SPEC.
PCA-MCS					
SCHEMATIC					
30140A					
NEXT ASSEMBLY					
30140-20013					
PART NUMBER					
30140-20013					
FROM					
SCALE					
SHEET 1 OF 1					

SIGNAL	PACK	PIN	SIGNAL	PACK	PIN	SIGNAL	PACK	PIN	SIGNAL	PACK	PIN	SIGNAL	PACK	PIN
ACCE88	R15	-5	DC15	R23	-2	HEMS1ZE01	R83	-6	CHECK3	R52	-3	FV11	R89	-9
ACKL	R30	-6	DC2	R26	-5	HEMS1ZE02	R83	-5	CHECK4	R52	-2	FV5	R75	-2
ADRTA00	R76	-6	DC3	R23	-7	HEMS1ZE03	R89	-10	CHECK5	R36	-3	FV6	R58	-5
ADRTA01	R83	-2	DC4	R54	-6	HEMS1ZE04	R84	-10	CHECK6	R53	-3	FV9	R56	-2
ADRTA02	R81	-3	DEL	R55	-7	HEMS1ZE05	R83	-3	CHECK7	R45	-6	GF10	R7	-7
ADRTA03	R81	-2	DJ2	R23	-6	HEMS1ZE06	R84	-4	CHECK8	R45	-5	GF10	R7	-7
ADRTA04	R70	-4	DOUT26	R80	-7	HEMS1ZE07	R84	-6	CHECK9	R45	-4	GSTRACC	R35	-9
ADRTA05	R86	-9	DOUT26	R85	-6	HEMS1ZE08	R83	-4	CHECK10	R50	-4	GTR	R5	-2
ADRTA06	R70	-9	DOUT30	R85	-6	HEMS1ZE09	R84	-5	CHECK11	R50	-6	GTR	R5	-7
ADRTA07	R81	-4	DOUT31	R85	-5	HEMS1ZE10	R83	-2	CHECK12	R45	-4	GTC	R5	-4
ADRTA08	R70	-7	DOUT31	R85	-5	HEMS1ZE11	R84	-3	CHECK13	R50	-3	INV00	R50	-3
ADRTA09	R81	-5	DOUT31	R85	-5	HEMS1ZE12	R84	-3	CHECK14	R50	-3	INV01	R50	-9
ADRTA10	R45	-3	DOUT31	R85	-5	HEMS1ZE13	R84	-2	CHECK15	R50	-3	INV02	R59	-8
ADRTA11	R59	-4	DOUT31	R85	-5	HEMS1ZE14	R82	-7	CHECK16	R50	-3	INV03	R50	-2
ADRTA12	R85	-2	DOUT31	R85	-5	HEMS1ZE15	R84	-3	CHECK17	R50	-3	INV04	R59	-3
ADRTA13	R76	-4	DOUT31	R85	-5	HEMS1ZE16	R84	-3	CHECK18	R50	-3	INV05	R59	-3
ADRTA14	R70	-6	DOUT31	R85	-5	HEMS1ZE17	R84	-3	CHECK19	R50	-3	INV06	R56	-9
ADRTA15	R70	-5	DOUT31	R85	-5	HEMS1ZE18	R84	-3	CHECK20	R50	-3	INV07	R59	-2
ADRTA16	R77	-6	DOUT31	R85	-5	HEMS1ZE19	R84	-3	CHECK21	R50	-3	INV08	R51	-3
ADRTA17	R70	-2	DOUT31	R85	-5	HEMS1ZE20	R84	-3	CHECK22	R50	-3	INV09	R51	-2
ADRTA18	R75	-3	DOUT31	R85	-5	HEMS1ZE21	R84	-3	CHECK23	R50	-3	INV10	R59	-7
ADRTA19	R53	-5	DOUT31	R85	-5	HEMS1ZE22	R84	-3	CHECK24	R50	-3	INV11	R56	-5
ADRTA20	R76	-6	DOUT31	R85	-5	HEMS1ZE23	R84	-3	CHECK25	R50	-3	INV12	R46	-4
ADRTA21	R81	-5	DOUT31	R85	-5	HEMS1ZE24	R84	-3	CHECK26	R50	-3	INV13	R46	-6
ADRTA22	R83	-7	DOUT31	R85	-5	HEMS1ZE25	R84	-3	CHECK27	R50	-3	INV14	R51	-4
ADRTA23	R83	-9	DOUT31	R85	-5	HEMS1ZE26	R84	-3	CHECK28	R50	-3	INV15	R46	-9
ADRTA24	R83	-2	DOUT31	R85	-5	HEMS1ZE27	R84	-3	CHECK29	R50	-3	INV16	R55	-9
ADRTA25	R83	-7	DOUT31	R85	-5	HEMS1ZE28	R84	-3	CHECK30	R50	-3	INV17	R72	-7
ADRTA26	R80	-4	DOUT31	R85	-5	HEMS1ZE29	R84	-3	CHECK31	R50	-3	INV18	R72	-7
ADRTA27	R80	-6	DOUT31	R85	-5	HEMS1ZE30	R84	-3	CHECK32	R50	-3	INV19	R72	-5
ADRTA28	R80	-2	DOUT31	R85	-5	HEMS1ZE31	R84	-3	CHECK33	R50	-3	INV20	R74	-4
ADRTA29	R80	-2	DOUT31	R85	-5	HEMS1ZE32	R84	-3	CHECK34	R50	-3	INV21	R74	-6
ADRTA30	R82	-2	DOUT31	R85	-5	HEMS1ZE33	R84	-3	CHECK35	R50	-3	INV22	R82	-7
ADRTA31	R76	-2	DOUT31	R85	-5	HEMS1ZE34	R84	-3	CHECK36	R50	-3	INV23	R82	-5
ADRTA32	R84	-8	DOUT31	R85	-5	HEMS1ZE35	R84	-3	CHECK37	R50	-3	INV24	R55	-4
ADRTA33	R83	-8	DOUT31	R85	-5	HEMS1ZE36	R84	-3	CHECK38	R50	-3	INV25	R55	-6
ADRTA34	R84	-7	DOUT31	R85	-5	HEMS1ZE37	R84	-3	CHECK39	R50	-3	INV26	R55	-7
ADRTA35	R82	-8	DOUT31	R85	-5	HEMS1ZE38	R84	-3	CHECK40	R50	-3	INV27	R55	-5
ADRTA36	R82	-5	DOUT31	R85	-5	HEMS1ZE39	R84	-3	CHECK41	R50	-3	INV28	R54	-4
ADRTA37	R87	-7	DOUT31	R85	-5	HEMS1ZE40	R84	-3	CHECK42	R50	-3	INV29	R54	-3
ADRTA38	R87	-7	DOUT31	R85	-5	HEMS1ZE41	R84	-3	CHECK43	R50	-3	INV30	R54	-2
ADRTA39	R87	-7	DOUT31	R85	-5	HEMS1ZE42	R84	-3	CHECK44	R50	-3	INV31	R54	-2
ADRTA40	R87	-7	DOUT31	R85	-5	HEMS1ZE43	R84	-3	CHECK45	R50	-3	INV32	R54	-2
ADRTA41	R87	-7	DOUT31	R85	-5	HEMS1ZE44	R84	-3	CHECK46	R50	-3	INV33	R54	-2
ADRTA42	R87	-7	DOUT31	R85	-5	HEMS1ZE45	R84	-3	CHECK47	R50	-3	INV34	R54	-2
ADRTA43	R87	-7	DOUT31	R85	-5	HEMS1ZE46	R84	-3	CHECK48	R50	-3	INV35	R54	-2
ADRTA44	R87	-7	DOUT31	R85	-5	HEMS1ZE47	R84	-3	CHECK49	R50	-3	INV36	R54	-2
ADRTA45	R87	-7	DOUT31	R85	-5	HEMS1ZE48	R84	-3	CHECK50	R50	-3	INV37	R54	-2
ADRTA46	R87	-7	DOUT31	R85	-5	HEMS1ZE49	R84	-3	CHECK51	R50	-3	INV38	R54	-2
ADRTA47	R87	-7	DOUT31	R85	-5	HEMS1ZE50	R84	-3	CHECK52	R50	-3	INV39	R54	-2
ADRTA48	R87	-7	DOUT31	R85	-5	HEMS1ZE51	R84	-3	CHECK53	R50	-3	INV40	R54	-2
ADRTA49	R87	-7	DOUT31	R85	-5	HEMS1ZE52	R84	-3	CHECK54	R50	-3	INV41	R54	-2
ADRTA50	R87	-7	DOUT31	R85	-5	HEMS1ZE53	R84	-3	CHECK55	R50	-3	INV42	R54	-2
ADRTA51	R87	-7	DOUT31	R85	-5	HEMS1ZE54	R84	-3	CHECK56	R50	-3	INV43	R54	-2
ADRTA52	R87	-7	DOUT31	R85	-5	HEMS1ZE55	R84	-3	CHECK57	R50	-3	INV44	R54	-2
ADRTA53	R87	-7	DOUT31	R85	-5	HEMS1ZE56	R84	-3	CHECK58	R50	-3	INV45	R54	-2
ADRTA54	R87	-7	DOUT31	R85	-5	HEMS1ZE57	R84	-3	CHECK59	R50	-3	INV46	R54	-2
ADRTA55	R87	-7	DOUT31	R85	-5	HEMS1ZE58	R84	-3	CHECK60	R50	-3	INV47	R54	-2
ADRTA56	R87	-7	DOUT31	R85	-5	HEMS1ZE59	R84	-3	CHECK61	R50	-3	INV48	R54	-2
ADRTA57	R87	-7	DOUT31	R85	-5	HEMS1ZE60	R84	-3	CHECK62	R50	-3	INV49	R54	-2
ADRTA58	R87	-7	DOUT31	R85	-5	HEMS1ZE61	R84	-3	CHECK63	R50	-3	INV50	R54	-2
ADRTA59	R87	-7	DOUT31	R85	-5	HEMS1ZE62	R84	-3	CHECK64	R50	-3	INV51	R54	-2
ADRTA60	R87	-7	DOUT31	R85	-5	HEMS1ZE63	R84	-3	CHECK65	R50	-3	INV52	R54	-2
ADRTA61	R87	-7	DOUT31	R85	-5	HEMS1ZE64	R84	-3	CHECK66	R50	-3	INV53	R54	-2
ADRTA62	R87	-7	DOUT31	R85	-5	HEMS1ZE65	R84	-3	CHECK67	R50	-3	INV54	R54	-2
ADRTA63	R87	-7	DOUT31	R85	-5	HEMS1ZE66	R84	-3	CHECK68	R50	-3	INV55	R54	-2
ADRTA64	R87	-7	DOUT31	R85	-5	HEMS1ZE67	R84	-3	CHECK69	R50	-3	INV56	R54	-2
ADRTA65	R87	-7	DOUT31	R85	-5	HEMS1ZE68	R84	-3	CHECK70	R50	-3	INV57	R54	-2
ADRTA66	R87	-7	DOUT31	R85	-5	HEMS1ZE69	R84	-3	CHECK71	R50	-3	INV58	R54	-2
ADRTA67	R87	-7	DOUT31	R85	-5	HEMS1ZE70	R84	-3	CHECK72	R50	-3	INV59	R54	-2
ADRTA68	R87	-7	DOUT31	R85	-5	HEMS1ZE71	R84	-3	CHECK73	R50	-3	INV60	R54	-2
ADRTA69	R87	-7	DOUT31	R85	-5	HEMS1ZE72	R84	-3	CHECK74	R50	-3	INV61	R54	-2
ADRTA70	R87	-7	DOUT31	R85	-5	HEMS1ZE73	R84	-3	CHECK75	R50	-3	INV62	R54	-2
ADRTA71	R87	-7	DOUT31	R85	-5	HEMS1ZE74	R84	-3	CHECK76	R50	-3	INV63	R54	-2
ADRTA72	R87	-7	DOUT31	R85	-5	HEMS1ZE75	R84	-3	CHECK77	R50	-3	INV64	R54	-2
ADRTA73	R87	-7	DOUT31	R85	-5	HEMS1ZE76	R84	-3	CHECK78	R50	-3	INV65	R54	-2
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ADRTA75	R87	-7	DOUT31	R85	-5	HEMS1ZE78	R84	-3	CHECK80	R50	-3	INV67	R54	-2
ADRTA76	R87	-7	DOUT31	R85	-5	HEMS1ZE79	R84	-3	CHECK81	R50	-3	INV68	R54	-2
ADRTA77	R87	-7	DOUT31	R85	-5	HEMS1ZE80	R84	-3	CHECK82	R50	-3	INV69	R54	-2
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ADRTA79	R87	-7	DOUT31	R85	-5	HEMS1ZE82	R84	-3	CHECK84	R50	-3	INV71	R54	-2
ADRTA80	R87	-7	DOUT31	R85	-5	HEMS1ZE83	R84	-3	CHECK85	R50	-3	INV72	R54	-2
ADRTA81	R87	-7	DOUT31	R85	-5	HEMS1ZE84	R84	-3	CHECK86	R50	-3	INV73	R54	-2
ADRTA82	R87	-7	DOUT31	R85	-5	HEMS1ZE85	R84	-3	CHECK87	R50	-3	INV74	R54	-2
ADRTA83	R87	-7	DOUT31	R85	-5	HEMS1ZE86	R84	-3	CHECK88	R50	-3	INV75	R54	-2
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ADRTA93	R87	-7	DOUT31	R85	-5	HEMS1ZE96	R84	-3	CHECK98	R50	-3	INV85	R54	-2
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ADRTA96	R87	-7	DOUT31	R85	-5	HEMS1ZE99	R84	-3	CHECK101	R50	-3	INV88	R54	-2
ADRTA97	R87	-7	DOUT31	R85	-5	HEMS1ZE100	R84	-3	CHECK102	R50	-3	INV89	R54	-2
ADRTA98	R87	-7	DOUT31	R85	-5	HEMS1ZE101	R84	-3	CHECK103	R50	-3	INV90	R54	-2
ADRTA99	R87	-7	DOUT31	R85	-5	HEMS1ZE102	R84	-3	CHECK104	R50	-3	INV91	R54	-2
ADRTA100	R87	-7	DOUT31	R85	-5	HEMS1ZE103	R84	-3	CHECK105	R50	-3	INV92	R54	-2
ADRTA101	R87	-7	DOUT31	R85	-5	HEMS1ZE104	R84	-3	CHECK106	R50	-3	INV93	R54	-2
ADRTA102	R87	-7	DOUT31	R85	-5	HEMS1ZE105	R84	-3	CHECK107	R50	-3	INV94	R54	-2
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REF. LWS.: D-51 THR D-57 SCHEMATIC  
A-50 DATE CODE INFO  
A-30140-70013-1 FINAL TEST  
A-70 PRE-TEST

F-30140-60014-4			
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1	AS ISSUED		
2	REVISION 1	10/1/68	10/1/68
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5	REVISION 4	10/1/68	10/1/68
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7	REVISION 6	10/1/68	10/1/68
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34	REVISION 33	10/1/68	10/1/68
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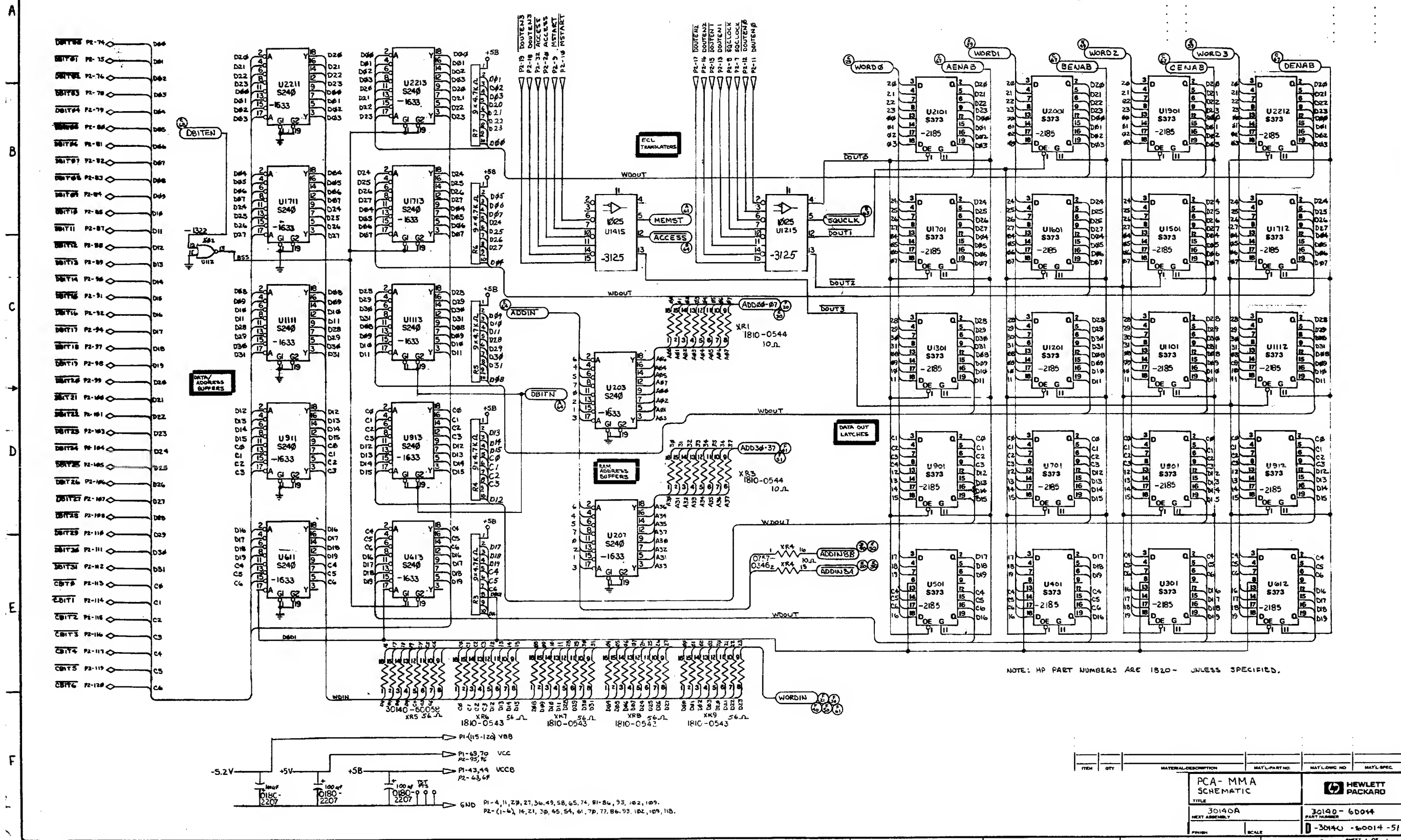
- NOTES:
- UNLESS OTHERWISE SPECIFIED:  
ALL RESISTANCE IN OHMS  
RESISTORS ARE 4.7K OHMS  
ALL CAPACITANCE IN MICROFARADS  
ALL CAPACITORS ARE .1UF (0160-4685)  
ALL IC'S ARE 1818-3006
  - INSTALL ITEM ①
  - INSTALL ITEM ② 3 PLACES
  - MASK AS INDICATED PRIOR TO LOADING
  - ALL BOARD LOADING & HANDLING MUST BE DONE AT AN ELECTROSTATIC DISCHARGE PROTECTED WORK STATION CONTAINING TABLE & FLOOR MATS & GROUNDED WRIST STRAP. TRANSPORT ASSEMBLY IN ELECTROSTATIC DISCHARGE PROTECTED BAGS.
  - LOAD EDGE CONNECTORS PRIOR TO COMPONENTS.
  - THE TWENTY TWO (22) CIRCLED HOLES (H) ARE FEEDTHROUGHS DO NOT MISTAKENLY LOAD A CAPACITOR, IC, OR SOCKET IN THEM.
  - LOAD 16 PIN SOCKETS AS REQUIRED (XU-111 THRU XU-224).
  - USE SUPPORT FIXTURE DURING WAVE SOLDER.
  - LOAD ALL IC'S, IN SOCKETS IN TOUCH UP.
  - INSTALL ITEMS ③ thru ⑥ and ⑦ thru ⑩ IN TOUCH UP.
  - PRETEST REQUIRED ON THE GUEST TEST SYSTEM.
  - USING AN OHMMETER CHECK FOR A RESISTANCE OF GREATER THAN 25 OHMS BETWEEN THESE POINTS BEFORE AND AFTER WAVE SOLDER. DO NOT USE A CONTINUITY LIGHT. TEST A-A', A-B, A-C, A'-B, A'-C AND B-C.
  - INSPECTION CRITERIA HP STD. SECTION 410.
  - THIS ASSEMBLY DWG. (F-4) IS GOOD FOR BOTH C-2306-47 & D-2306-47 BOARDS.

11	1	LABEL - DATE CODE	9430-5340	
10	1	LABEL - SERIAL NUMBER	720-1016	
9	2	PIN	1480-0116	
8	1	LBL-WARR DATE CD	7120-6830	
7	1	LABEL-PCB MMA	7121-2124	
6	2	BRACE	5040-6050	
		Deleted		
4	8	3CREW 4-40	0624-0077	
3	2	EXTRACTOR	5040-7804	
2	3	STUD SOLDER TERM	0360-0234	
		PCB-MMA	5400-0044	
FORM	577	REVISIONS	DATE - PART NO.	DATE - SPEC.

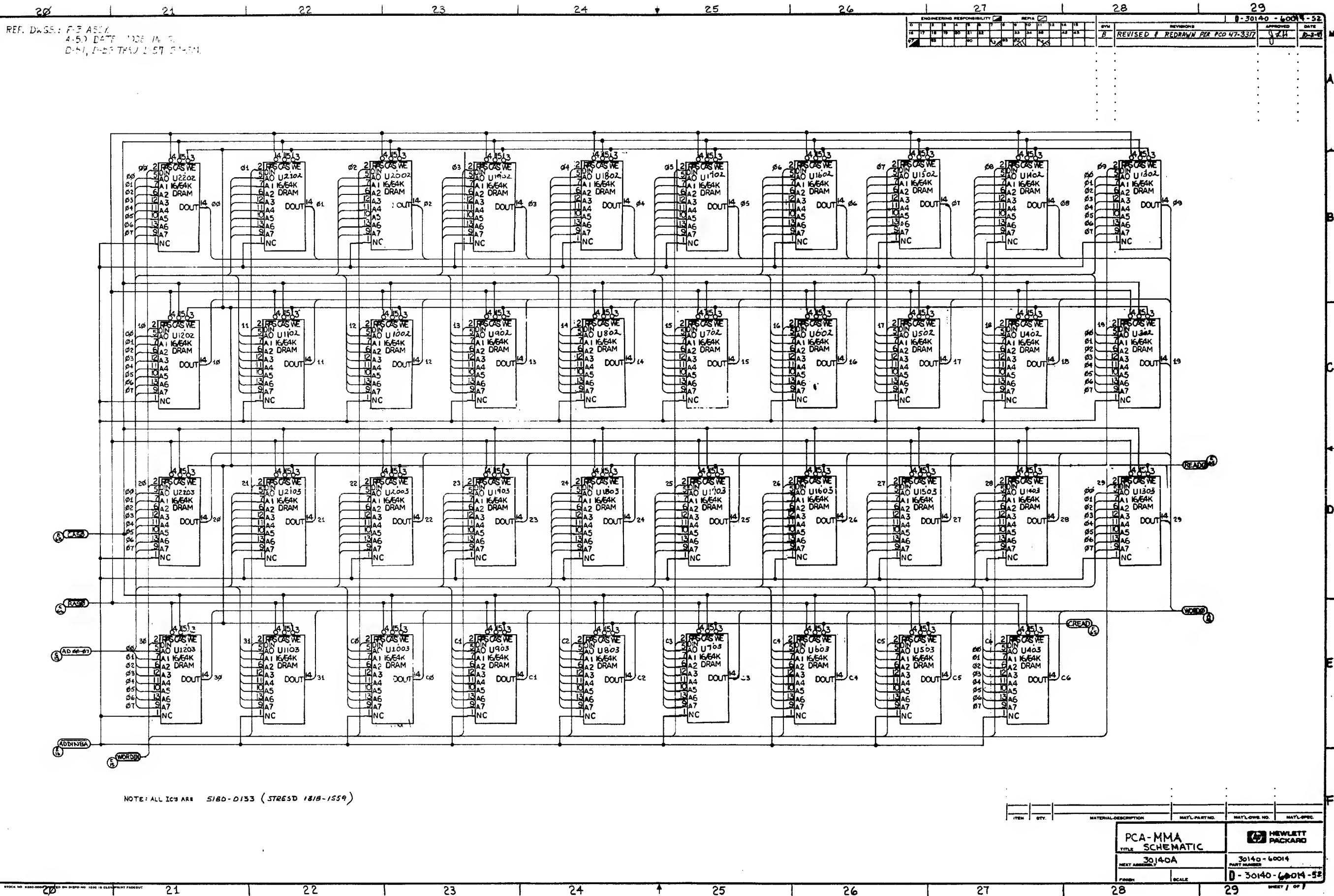


REF. DW65: F-3 ASSY.  
A-50 DATE CODE INFO.  
D-52 THRU D-51 SCHEM.

REVISIONS									
REV.	DATE	DESCRIPTION	BY	CHKD.	APP'D.	REV.	DATE	DESCRIPTION	BY
1	10-2-81	REVISED & REDRAWN PER PCO 47-337	U. J. H.			2	10-2-81	REVISED PER PCO 47-379	U. J. H.
3	10-2-81	CHG. U112 PIN NUMBERS; 15B WAS 15C	U. J. H.			4	10-2-81	CHG. IN PART NAME; LOC. D65, C6B, PER E-4	U. J. H.

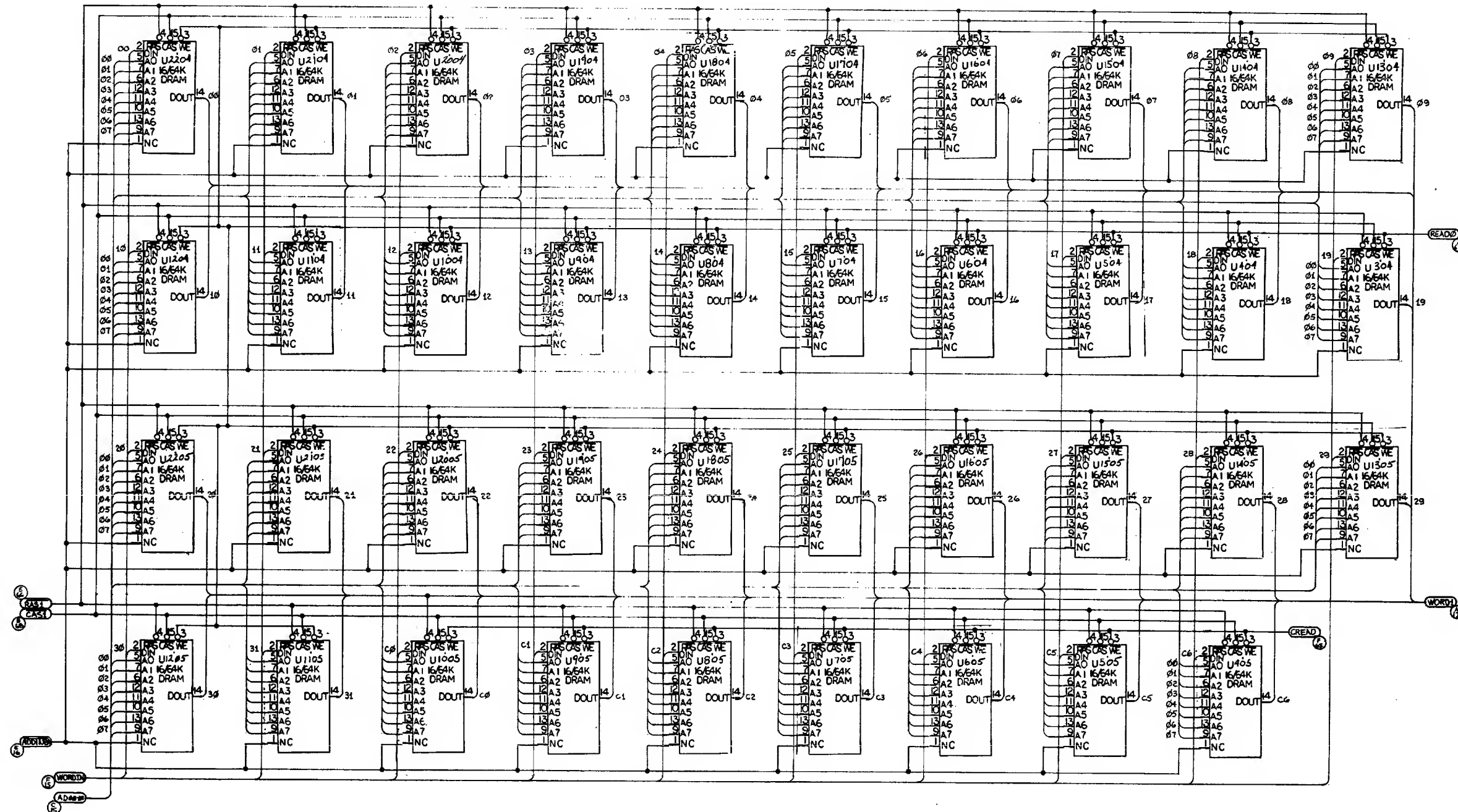






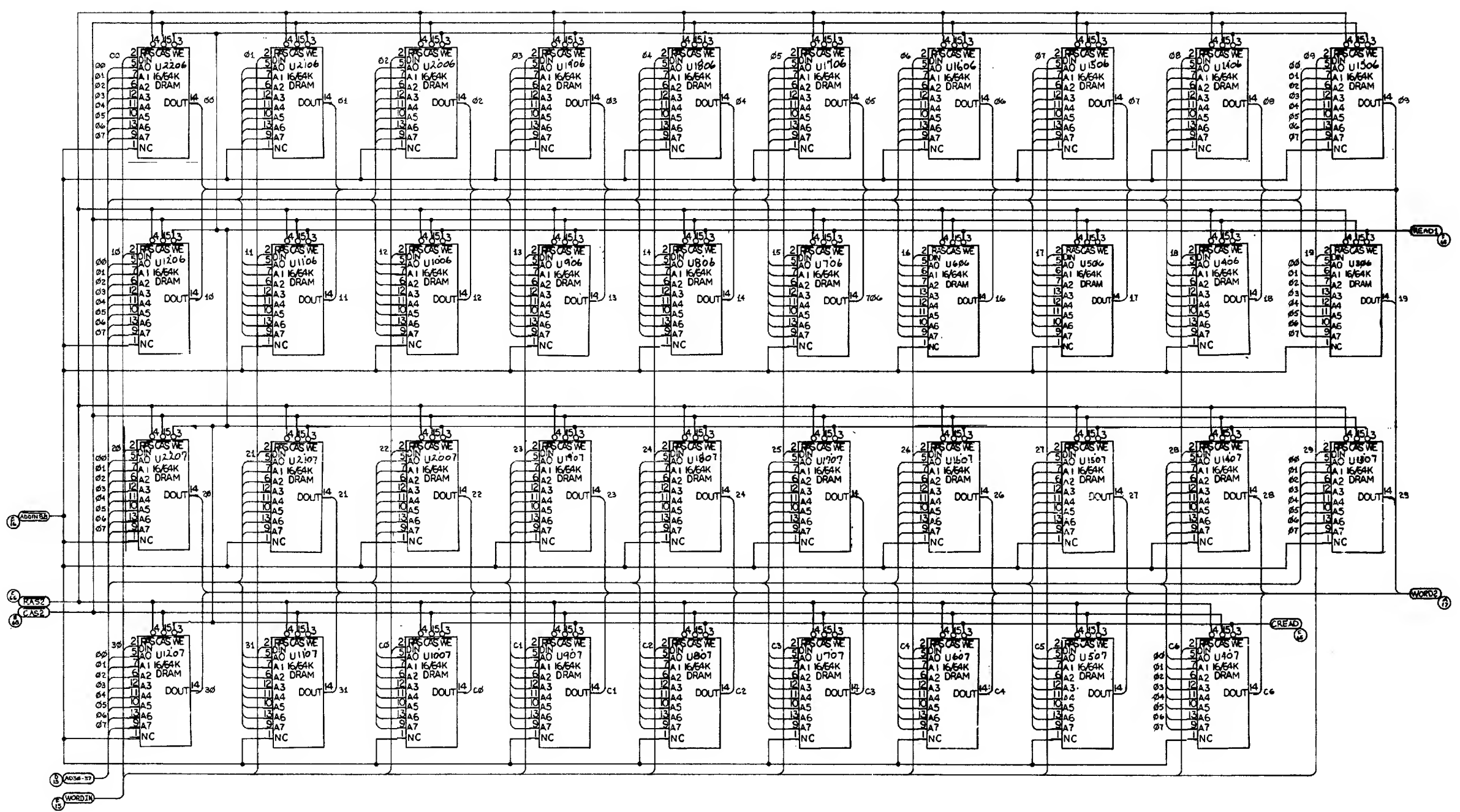
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 ADD DESIG. 100  
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ENGINEERING RESPONSIBILITY										REVISIONS										APPROVED		DATE	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
B										REVISED: E REDRAWN PER PCO 42-3317										JZH		1-2-71	



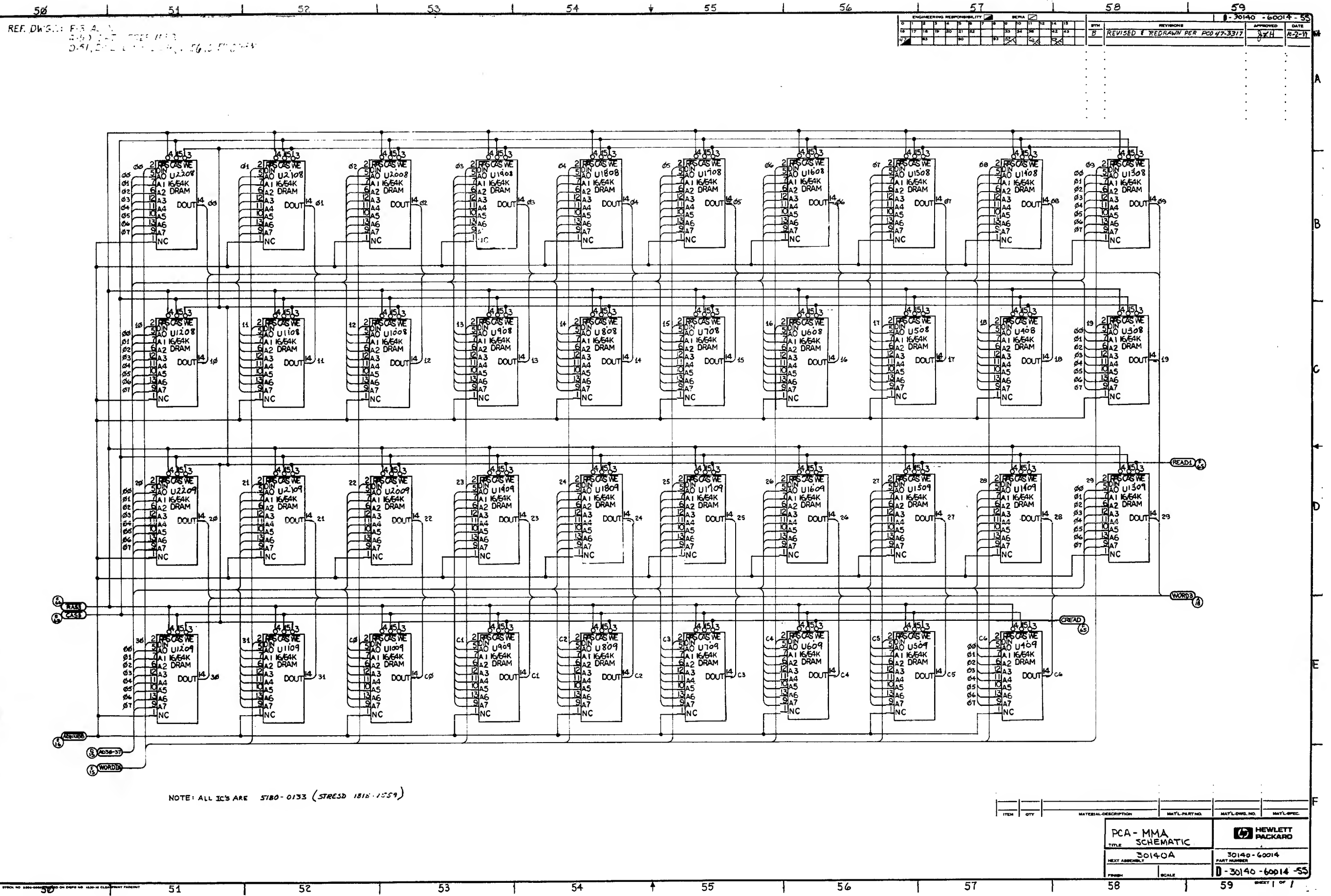
NOTE: ALL IC'S ARE: 5180-0133 (STRESS 1818-1559)

ITEM	QTY	MATERIAL DESCRIPTION	MATL PART NO.	MATL LONG NO.	MATL SPEC.
PCA-MMA					
TITLE SCHEMATIC					
30140A					
NEXT ASSEMBLY					
30140 - 60014					
FINISH SCALE					
D-30140-60014-53					



NOTE: ALL IC'S ARE: 5180-0133 (STRESS 1818-1559)

ITEM	QTY	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L QTY NO.	MAT'L SPEC.
PCA - MMA					
TITLE SCHEMATIC					
30140A					
NEXT ASSEMBLY					
PART NUMBER					
30140-60014-54					
DRAWN					
SCALE					
10-2588-1-FM					





REF DES: 30140-60014-57

ENGINEERING RESPONSIBILITY										REVISED										APPROVED										DATE									
A										A										A										A									

3  
POWER AND GROUND

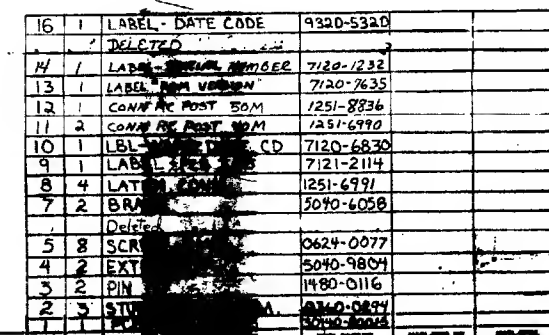
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-5	C5-2, C1-1, C2-1						
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1 SIGNAL	2 PACK PIN	SIGNAL	PACK PIN
ADDINB	R1-8	MDOUTD04	RS-10
ADDN	R1-8	MDOUTD05	RS-2
ADJX	R2-10	MDOUTD06	RS-3
DOD0	R2-8	MDOUTD07	RS-4
DOD1	R3-8	MDOUTD08	RS-10
GST	R1-7	MDOUTD09	RS-2
HIGH	R2-7	MDOUTD10	RS-3
HI16K	R2-3	MDOUTD11	RS-4
HI256K	R2-5	MDOUTD12	R4-10
HI84K	R2-4	MDOUTD13	R4-2
JK128	R1-2	MDOUTD14	R4-3
JK256	R1-10	MDOUTD15	R4-4
JK32	R1-4	MDOUTD16	R3-10
JK64	R1-3	MDOUTD17	R3-2
LRDIN	R2-2	MDOUTD18	R3-3
SCLR	R2-8	MDOUTD19	R3-4
MDOUTC0	R4-5	MDOUTD20	R7-5
MDOUTC1	R4-8	MDOUTD21	R7-6
MDOUTC2	R4-7	MDOUTD22	R7-7
MDOUTC3	R4-6	MDOUTD23	R7-8
MDOUTC4	R3-5	MDOUTD24	R6-5
MDOUTC5	R3-8	MDOUTD25	R6-8
MDOUTC6	R3-7	MDOUTD26	R6-7
MDOUTC7	R3-9	MDOUTD27	R6-8
MDOUTD00	R7-10	MDOUTD28	RS-5
MDOUTD01	R7-2	MDOUTD29	RS-6
MDOUTD02	R7-3	MDOUTD30	RS-7
MDOUTD03	R7-4	MDOUTD31	RS-8

NOTES:  
1 SIGNAL NAME REFERS TO SIGNAL LINE BEING TERMINATED BY THE RESPECTIVE RESISTOR. (SEE NOTE 2)  
2 THE PACK NUMBER LISTED UNDER "PACK" REPRESENTS THE REFERENCE DESIGNATOR ASSOCIATED WITH THE RESISTOR PACK TERMINATING THE RESPECTIVE SIGNAL NAME. THE NUMBER LISTED UNDER "PIN" REPRESENTS THE TERMINATING PIN FOR THAT SIGNAL.  
3 THE TABLE LABELED "POWER AND GROUND" IDENTIFY THE CAPACITORS AND RESISTOR PINS THAT CONNECT TO THE SPECIFIED POWER AND GROUND PLANES. (SEE ASSEMBLY DRAWING FOR LOCATIONS OF THESE CAPACITORS AND RESISTORS.)

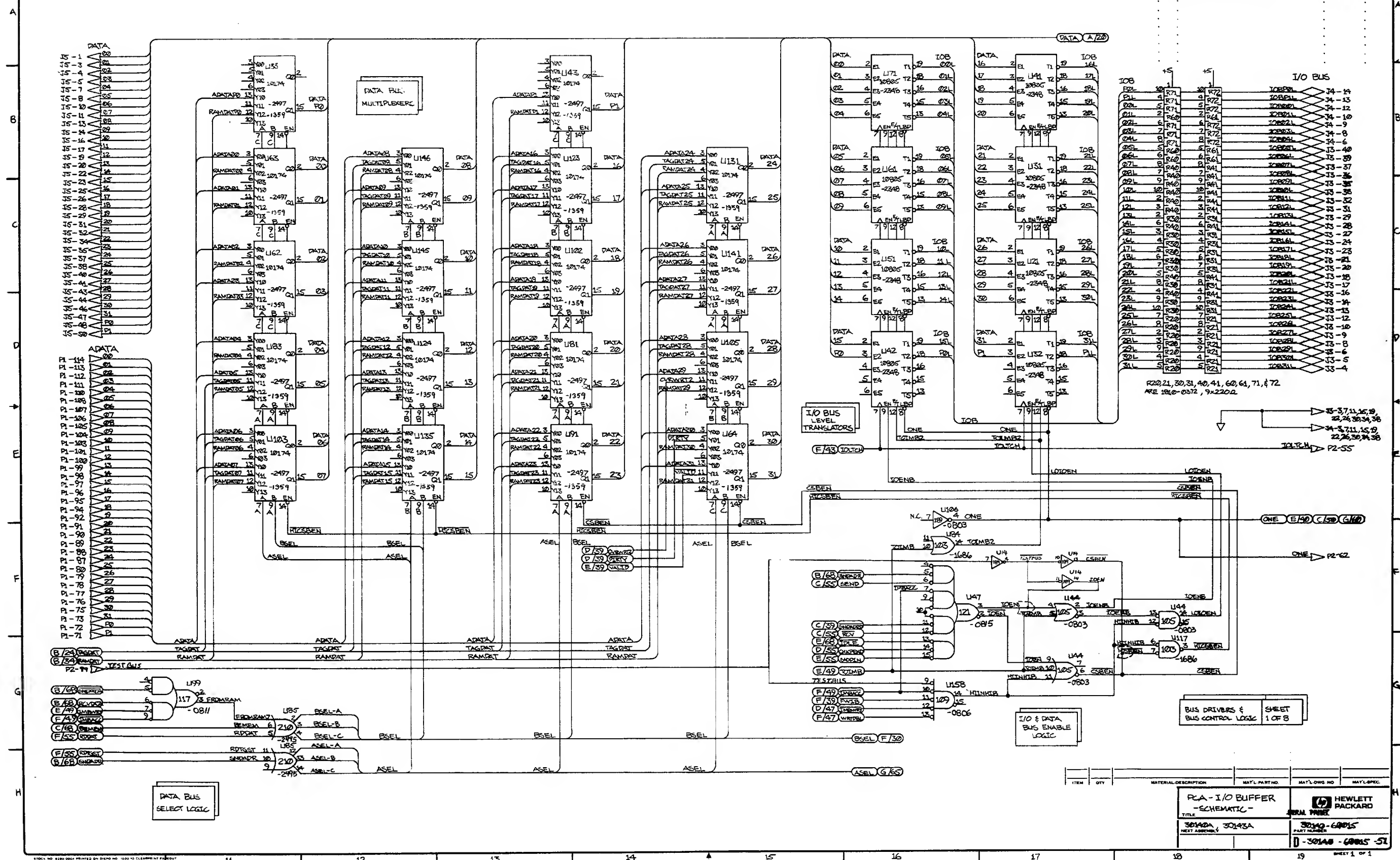
ITEM	QTY.	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L LONG. NO.	MAT'L SPEC.
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30140-A			30140-60014		
NEXT ASSEMBLY			PART NUMBER		
FINISH			SCALE		
			D-30140-60014-57		

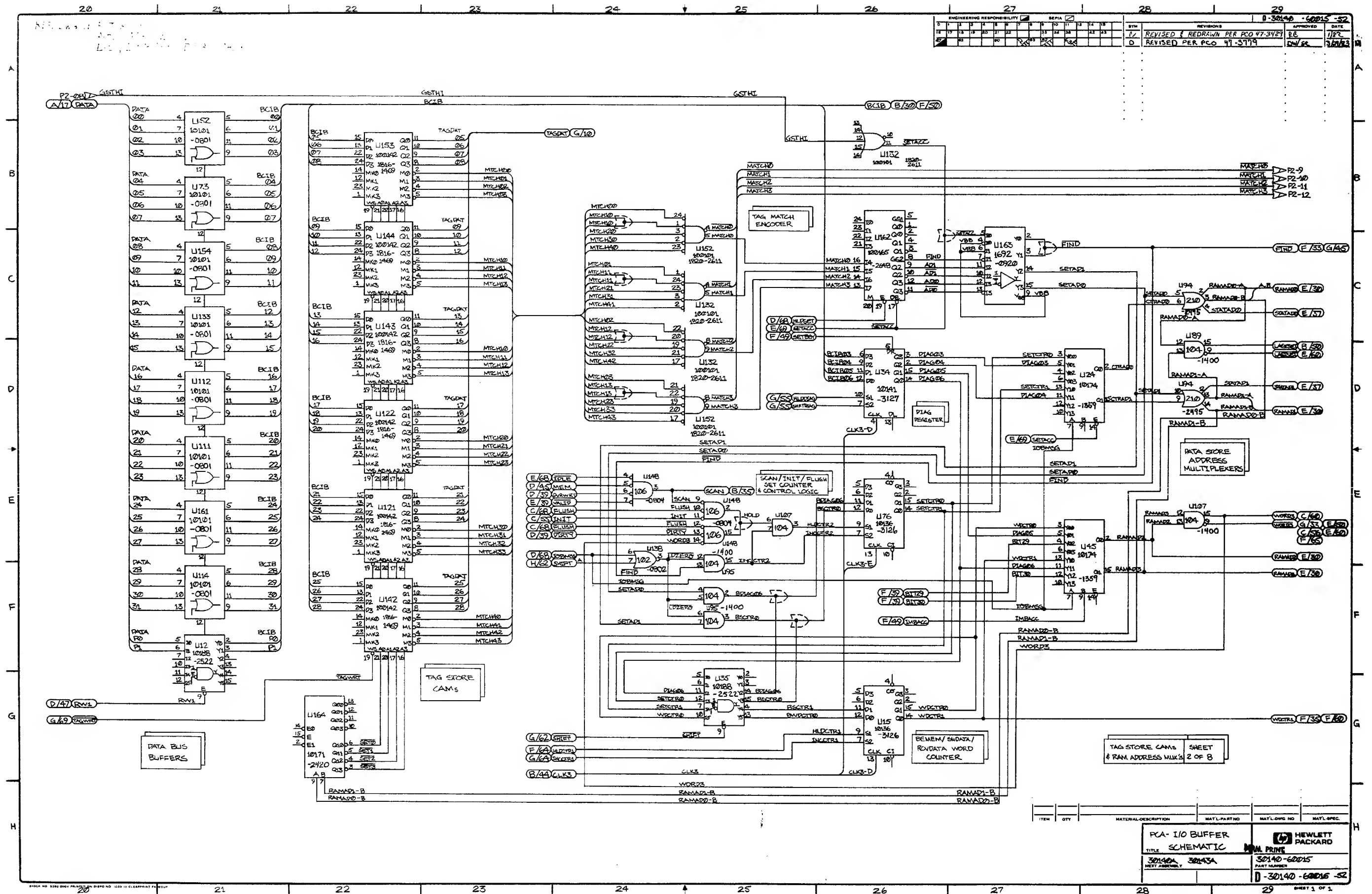


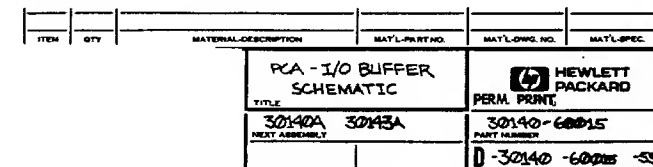


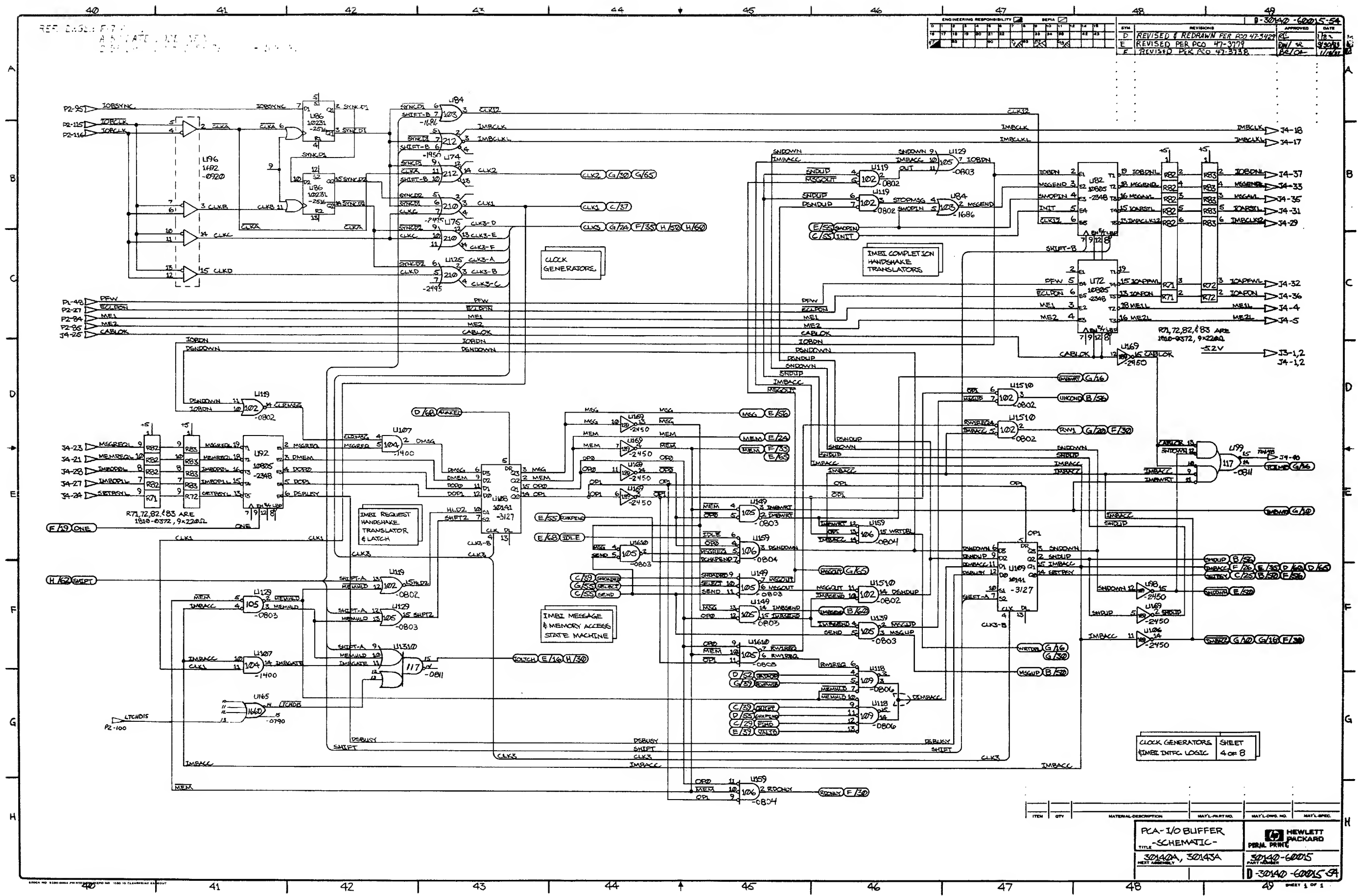
PCA I/O BUFFER ASSY. DWG.		 HEWLETT PACKARD	
TITLE		30140-60015 <small>PART NAME</small>	
NEXT ASSEMBLY		F-30140-60015-4 <small>PART NAME</small>	
30140A <small>REV</small>		5X1 <small>REV</small>	

ENGINEERING RESPONSIBILITY										REVISIONS										APPROVED									
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REVISED PER PCO 47-3429										REVISED PER PCO 47-3719										REVISED PER PCO 47-3732									
DATE 1/11/73										DATE 1/11/73										DATE 1/11/73									











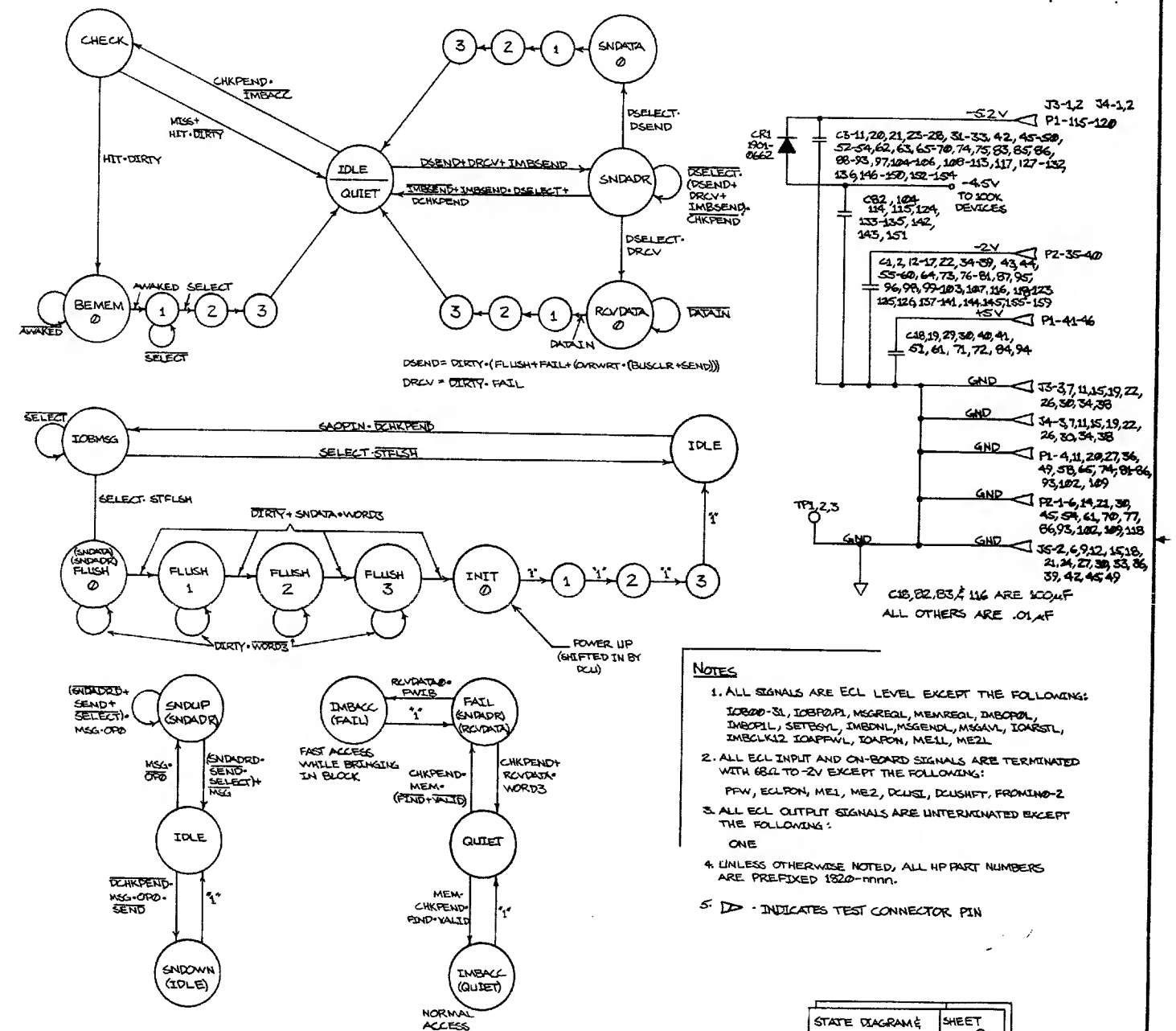




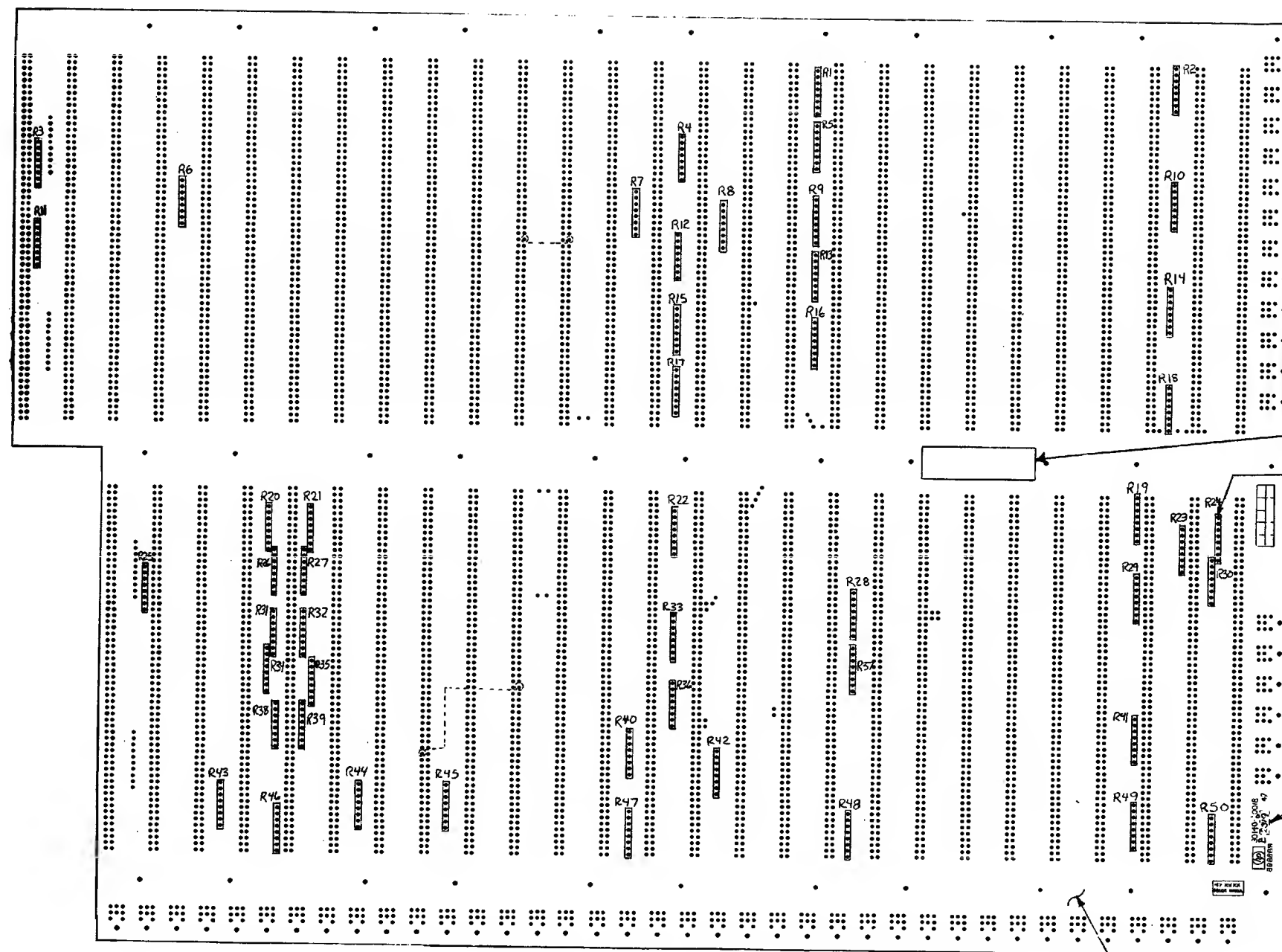


REF DWG: F-7 ASSY  
A-50 DATE 10/1/80  
D-50 THRU 1/1/81

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REV	DESCRIPTION	DATE	BY
A	AS ISSUED PER PCD		
B	ADD JUMPER WIRE PER		
C	DATE CODE WAS B-3203-000		
D	DOC CHG. CHANGES ARE		
E	ADDED NOTE 4, DO NOT		
F	REVISED NOTE 2, ADDED 10-21-83		



- NOTES:
1. UNLESS OTHERWISE SPECIFIED:  
ALL RESISTOR NETWORK ARE 68 OHMS
  2. INSTALL ITEM ③
  3. LOAD ITEM ② IN TOUCHUP AND  
DO NOT SOLDER
  4. VENDOR SERIAL NUMBERTAG CAN  
BE PUT IN THIS AREA.

(50 PLCS. TYP)

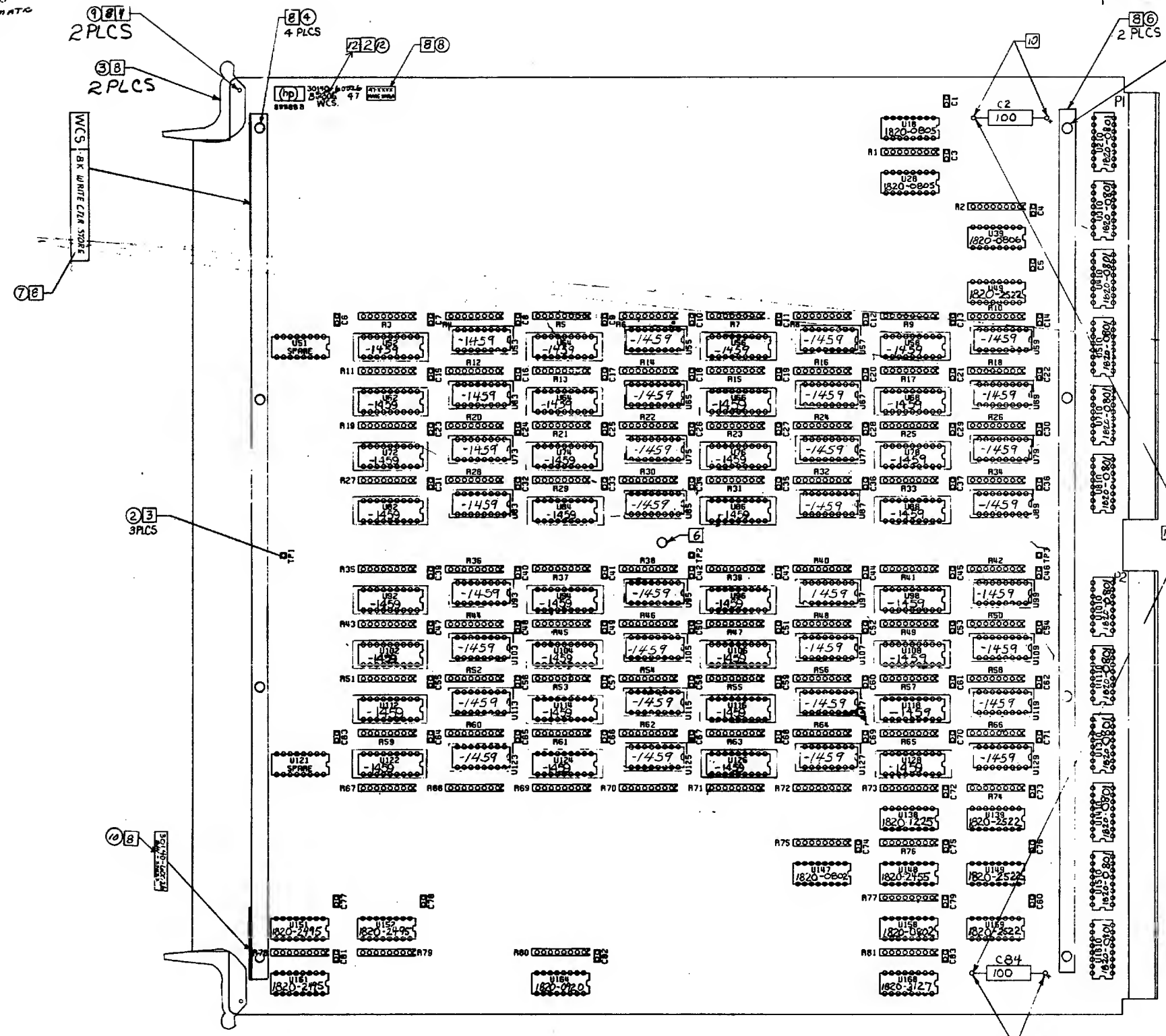
CIRCUIT SIDE

REV	DESCRIPTION	DATE	BY
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1	PCB-CPU BACKPLANE	3040-0000	

PCA-CPU BACKPLANE	HEWLETT PACKARD
30140A	30140-60018
10-21-83	10-30140-60018-4

ENGINEERING RESPONSIBILITY										REVISIONS		DATE
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1301	1302	1303	1304	1305	1306	1307	1308	1309	1310	1311	1312	1313
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1327	1328	1329	1330	1331	1332	1333	1334	1335	1336	1337	1338	1339
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1366	1367	1368	1369	1370	1371	1372	1373	1374	1375	1376	1377	1378
1379	1380	1381	1382	1383	1384	1385	1386	1387	1388	1389	1390	1391
1392	1393	1394	1395	1396	1397	1398	1399	1400	1401	1402	1403	1404
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REF DWG:  
A-50 DATE CODE 1459  
C 51, D 51, D-53 SCHEMATIC



F-30140-60026-1									
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2	REVISION 1: 10/1/79	62-93	62-93						
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5	REVISION 4: 1/1/80	62-93	62-93						
6	REVISION 5: 2/1/80	62-93	62-93						
7	REVISION 6: 3/1/80	62-93	62-93						
8	REVISION 7: 4/1/80	62-93	62-93						
9	REVISION 8: 5/1/80	62-93	62-93						
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11	REVISION 10: 7/1/80	62-93	62-93						
12	REVISION 11: 8/1/80	62-93	62-93						
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14	REVISION 13: 10/1/80	62-93	62-93						
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98	REVISION 97: 10/1/87	62-93	62-93						
99	REVISION 98: 11/1/87	62-93	62-93						
100	REVISION 99: 12/1/87	62-93	62-93						

- NOTES:
- UNLESS OTHERWISE SPECIFIED  
ALL RESISTANCE IN OHMS  
ALL RESISTORS ARE 68 OHMS  
ALL CAPACITANCE IN MICROFARADS  
ALL CAPACITORS ARE .01UF (0160-5352)  
ALL IC'S 1816-1459 ARE TO BE LOADED IN TOUCHUP
  - INSTALL ITEM ②
  - INSTALL ITEM ② 3 PLACES
  - MASK AS INDICATED PRIOR TO LOADING
  - ALL BOARD LOADING/HANDLING MUST BE DONE AT AN ELECTROSTATIC DISCHARGE PROTECTED WORK-STATION CONTAINING TABLE FLOOR MATS & GROUNDED WRIST STRAP. TRANSPORT ASSEMBLY IN ELECTROSTATIC DISCHARGE PROTECTED BAGS.
  - USE SUPPORT FIXTURE DURING WAVE SOLDER
  - LOAD SOCKETS AS INDICATED. XU---, ETC. LOAD IC'S BEFORE WAVE SOLDER
  - INSTALL ITEMS ③ thru ④ and ⑥ thru ⑪ IN TOUCHUP
  - PRETEST REQUIRED ON THE GUEST TEST SYSTEM.
  - USING AN OHMMETER, CHECK FOR A RESISTANCE OF GREATER THAN 25 OHMS BETWEEN THESE POINTS. DO NOT USE A CONTINUITY LIGHT.
  - INSPECTION CRITERIA-HP STD SECT 9/0
  - THIS ASSY DWG IS GOOD FOR BOTH REV A & B BOARDS

12	1	LABEL-DATE CODE	9520-5320		
11	64	I.C. ECL RAM	1816-1459		
10	1	LBL SERIAL NUMBER	9310-4848		
9	2	PIN	1480-0116		
8	1	LBL-WARR DATE CD	7120-6830		
7	1	LABEL-PCB BK WCS	7121-3746		
6	2	BRACE	5040-6058		
5	1	DELTA			
4	8	SCREW 4-40	0624-0077		
3	2	EXTRACTOR	5040-8004		
2	3	TERM TEST POINT	6160-0004		
1	1	PCB WCS			

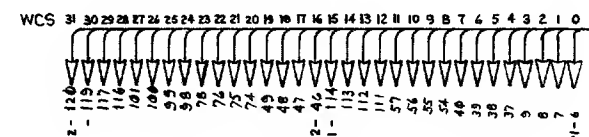
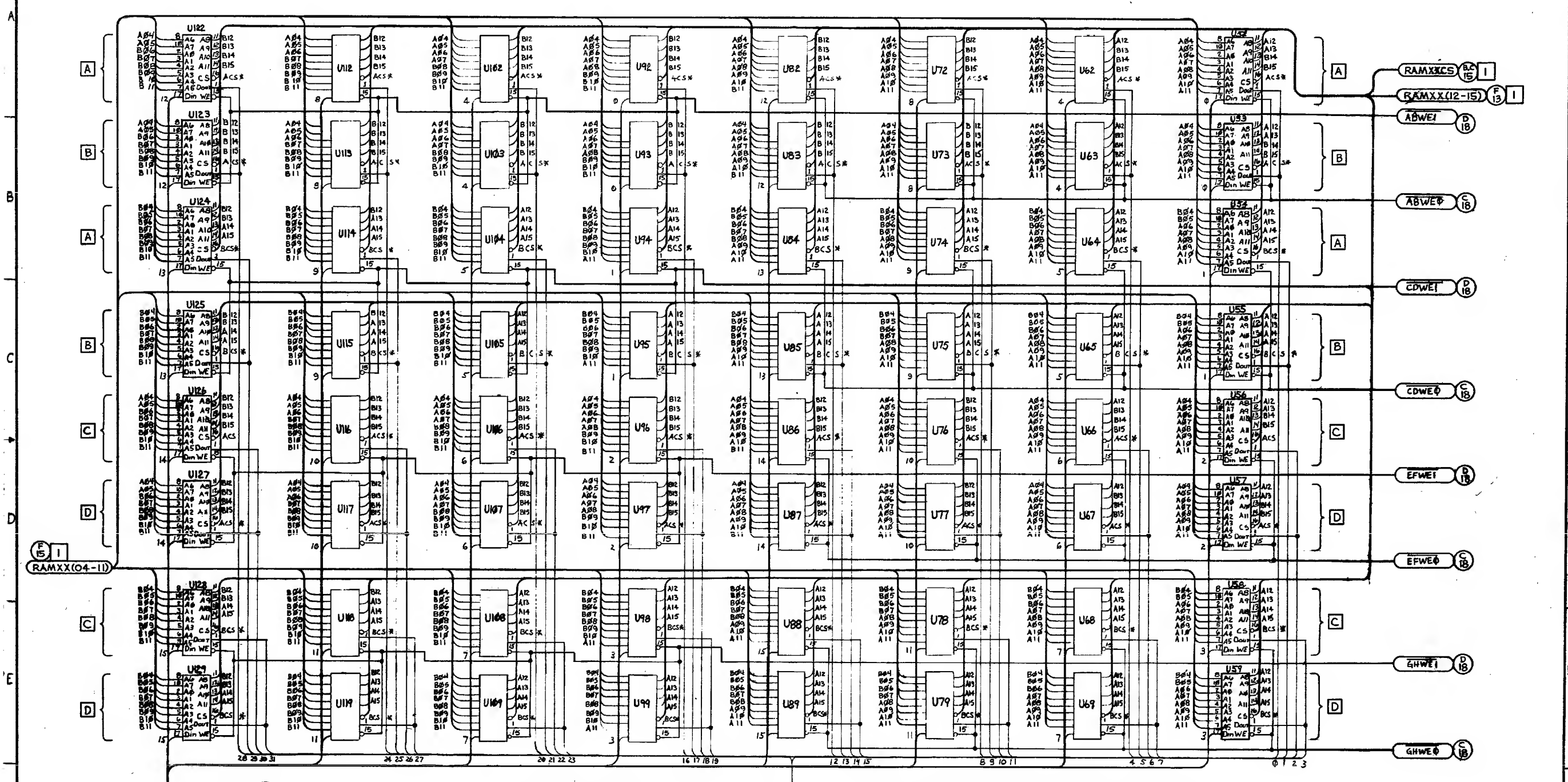
PCA-BK WHITE CTRL STORE  
ASSY DWG  
30140 A  
30140-60026  
F-30140-60026-1



[illegible]

REF DWG: R-1055  
DATE CODE: 10/70  
D-51, D-53 SCHMATIC

ENGINEERING RESPONSIBILITY																REV		DATE		BY		CHK	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
A AS ISSUED																7/74		7/74					



NOTES, UNLESS OTHERWISE SPECIFIED ALL I.C.'s ARE:  
1816-1459 (10470) TYP 8 PLACES ACROSS PAGE.

ITEM	QTY	MATERIAL DESCRIPTION	MATL PART NO.	MATL QTY NO.	MATL SPEC.
PCA BK WCS					
TITLE SCHEMATIC					
NEXT ASSEMBLY 30140A					
PART NUMBER 30140-60026					
D-30140-60026-52					

SIGNAL	PACK	PIN	SIGNAL	PACK	PIN	SIGNAL	PACK	PIN
ADWED*	R36	5	RANBA07	R44	2	RANBA07	R48	2
ADWED*	R68	4	RANBA08	R36	3	RANBA08	R40	3
AS1*	R81	5	RANBA09	R28	4	RANBA09	R32	4
CMWED*	R70	3	RANBA10	R20	6	RANBA10	R24	6
CLK	R81	4	RANBA11	R20	7	RANBA11	R24	7
OCUSBFTI	R2	8	RANBA12	R12	6	RANBA12	R16	6
OU2	R81	6	RANBA13	R6	5	RANBA13	R10	5
OU3	R77	4	RANBA14	R6	4	RANBA14	R10	4
OU1*	R77	3	RANBA15	R70	2	RANBA15	R74	2
SA1*	R77	2	RANBA16	R70	7	RANBA16	R74	7
CB12	R75	4	RANBA17	R70	8	RANBA17	R74	8
ED2	R75	5	RANBA18	R60	2	RANBA18	R72	3
EFWED*	R40	5	RANBA19	R44	3	RANBA19	R48	7
EFWED*	R72	5	RANBA20	R36	4	RANBA20	R40	4
EF14	R81	7	RANBA21	R60	5	RANBA21	R64	5
GF2	R76	6	RANBA22	R28	6	RANBA22	R32	6
GF3	R76	3	RANBA23	R28	7	RANBA23	R32	7
CHWED*	R74	3	RANBA24	R20	5	RANBA24	R24	5
CHWED*	R74	3	RANBA25	R4	5	RANBA25	R8	5
HAF3	R1	5	RANBA26	R4	4	RANBA26	R8	4
RANBA05*	R67	2	RANBA27	R71	2	RANBA27	R75	5
RANBA05	R67	7	RANBA28	R71	7	RANBA28	R75	6
RANBA06	R51	2	RANBA29	R71	8	RANBA29	R80	5
RANBA07	R43	2	RANBA30	R55	4	RANBA30	R80	4
RANBA08	R35	3	RANBA31	R55	2	RANBA31	R76	7
RANBA09	R27	4	RANBA32	R39	3	RANBA32	R76	8
RANBA10	R27	5	RANBA33	R31	4	RANBA33	R78	7
RANBA11	R19	6	RANBA34	R31	5	RANBA34	R78	8
RANBA12	R19	7	RANBA35	R23	6	RANBA35	R79	6
RANBA13	R11	6	RANBA36	R23	7	RANBA36	R79	7
RANBA14	R9	5	RANBA37	R15	6	RANBA37	R84	4
RANBA15	R9	4	RANBA38	R9	4	RANBA38	R32	2
RANBA16	R69	2	RANBA39	R73	2	RANBA39	R34	2
RANBA17	R69	7	RANBA40	R73	7	RANBA40	R36	2
RANBA18	R69	8	RANBA41	R73	8	RANBA41	R36	2
RANBA19	R60	8	RANBA42	R71	3	RANBA42	R40	2
RANBA20	R59	2	RANBA43	R63	2	RANBA43	R42	2
RANBA21	R51	3	RANBA44	R55	3	RANBA44	R49	8
RANBA22	R59	4	RANBA45	R63	4	RANBA45	R50	2
RANBA23	R27	6	RANBA46	R63	5	RANBA46	R20	2
RANBA24	R27	7	RANBA47	R31	6	RANBA47	R22	2
RANBA25	R19	5	RANBA48	R31	7	RANBA48	R24	2
RANBA26	R3	5	RANBA49	R23	5	RANBA49	R26	2
RANBA27	R3	4	RANBA50	R7	4	RANBA50	R28	2
RANBA28	R68	3	RANBA51	R7	5	RANBA51	R30	2
RANBA29	R68	8	RANBA52	R72	2			
RANBA30	R52	2	RANBA53	R72	7			
			RANBA54	R72	8			
			RANBA55	R72	8			
			RANBA56	R72	8			
			RANBA57	R72	8			
			RANBA58	R72	8			
			RANBA59	R72	8			
			RANBA60	R72	8			

C80  
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HEWLETT-PACKARD CO.



NOTES:

1. Unless otherwise specified, all dimensions between adjacent connectors are .875 inches center to center.

Wire side of cable is up.



Red wire of cable and pin 1 of each connector should be oriented as specified on diagram, connector face down, as viewed in assembly fixture.

2. Mark top-most connector with cable stock number per Dwg. A-5951-4406-1.

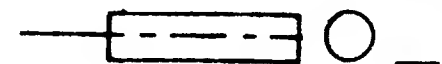
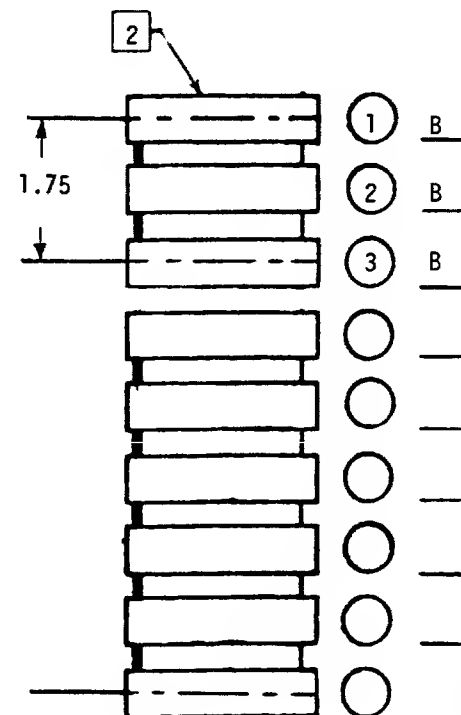
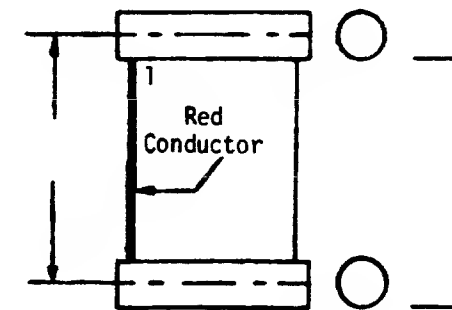
3. Cable Stock No.: 8120-1595  
No. of Conductors: 50  
Shielded ☐ Unshielded ☒

4. Cable cut length: 2.00 inches

Connectors:		Type			
Part No.	Cont.	PC Edge	Skt.	Ears	
B. 1251-3077	50		X		

6. Install handles, 5040-6059, in positions ☐ on cover side of connector. Use Fixture: T116667

7. For Test, refer to Drawing(s):  
TEST PER A-30140-60029-71.  
EQUIPMENT REQUIRED TO TEST CABLE ASSEMBLY:  
ET10957-6007 50 PIN PC-TO-PC ADAPTOR (2)  
ET10957-6052 ADAPTER CABLES (2)  
ET10957-6054 CABLE TEST CONSOLE  
ET10999 CONTINUITY TESTER MODEL 1024  
ET10999-1001 CASSETTE TAPE



		MODEL	---	STK NO	30140-60029
		FCA-CBI/CMA/CAC			
		BY	K. HODOR	DATE	11-18-80
		APPD		SHEET NO	2 OF 2
		SUPERSEDES		DWG NO	A-30140-60029-1
		REVISIONS			

9320-2789 (FORMERLY 0-700024)

HEWLETT-PACKARD CO.



NOTES:

1. Unless otherwise specified, all dimensions between adjacent connectors are .875 inches center to center.

Wire side of cable is up.



Red wire of cable and pin 1 of each connector should be oriented as specified on diagram, connector face down, as viewed in assembly fixture.

2. Mark top-most connector with cable stock number per Dwg. A-5951-4406-1.

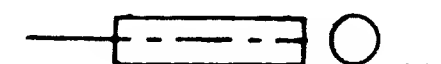
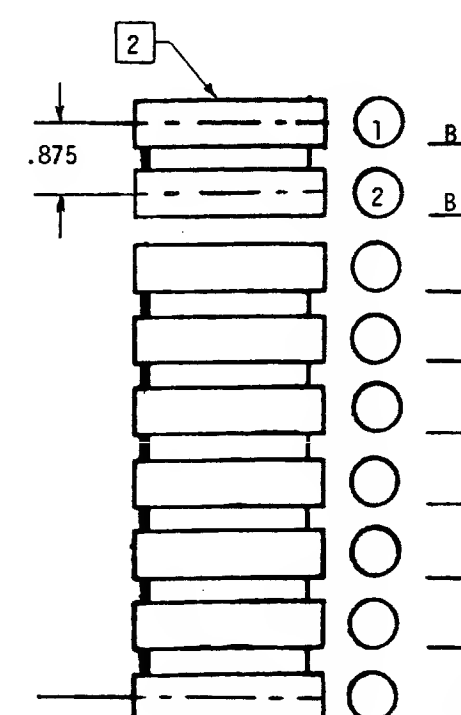
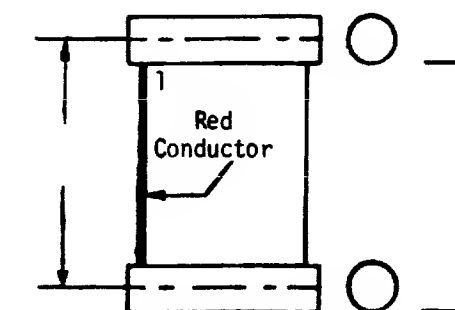
3. Cable Stock No.: 8120-1595  
No. of Conductors: 50  
Shielded ☐ Unshielded ☒

4. Cable cut length: 1.13 inches

Connectors:		Type			
Part No.	Cont.	PC Edge	Skt.	Ears	
B. 1251-3077	50		X		

6. Install handles, 5040-6059, in positions ☐ on cover side of connector. Use Fixture: T116667

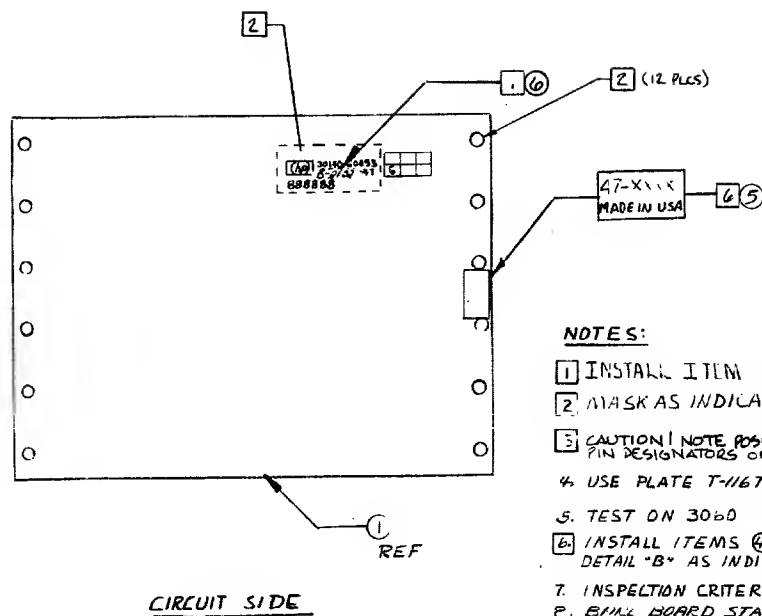
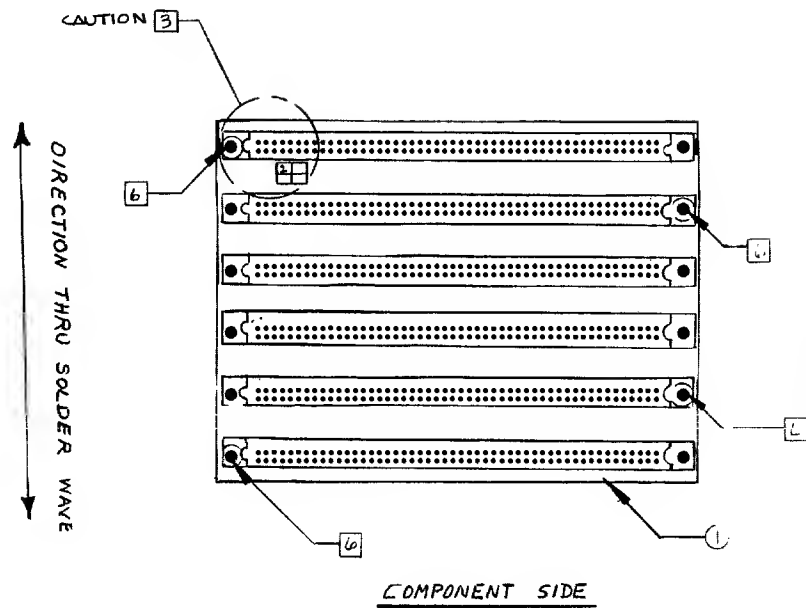
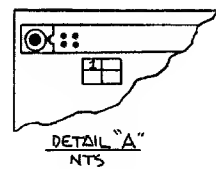
7. For Test, refer to Drawing(s):  
TEST PER A-30140-60028-71.  
EQUIPMENT REQUIRED TO TEST CABLE ASSEMBLY:  
ET10957-6007 50 PIN PC-TO-PC ADAPTERS (2)  
ET10957-6052 ADAPTER CABLES (2)  
ET10957-6054 CABLE TEST CONSOLE  
ET10999 CONTINUITY TESTER MODEL 1024  
ET10999-1001 CASSETTE TAPE



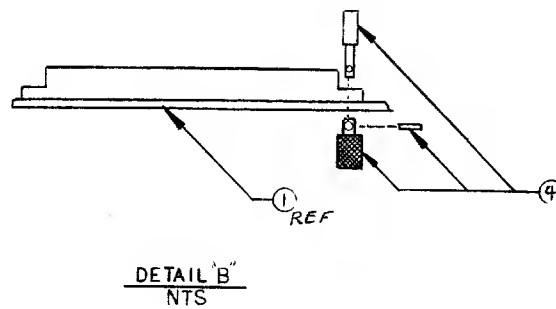
		MODEL	---	STK NO	30140-60028
		FCA-CBI/IOB (MCS)			
		BY		DATE	11-18-80
		APPD		SHEET NO	2 OF 2
		SUPERSEDES		DWG NO	A-30140-60028-1
		REVISIONS			

9320-2789 (FORMERLY 0-700024)

A	AS ISSUED
B	ADDED NOTE 1 PER DEC 71
C	REV. DEC. 71
D	REVISED NOTE 1 DEC 71
E	ADDED NOTE 2, DEC 71
F	REVISED NOTE 1, DEC 71
G	REVISED NOTE 1, DEC 71

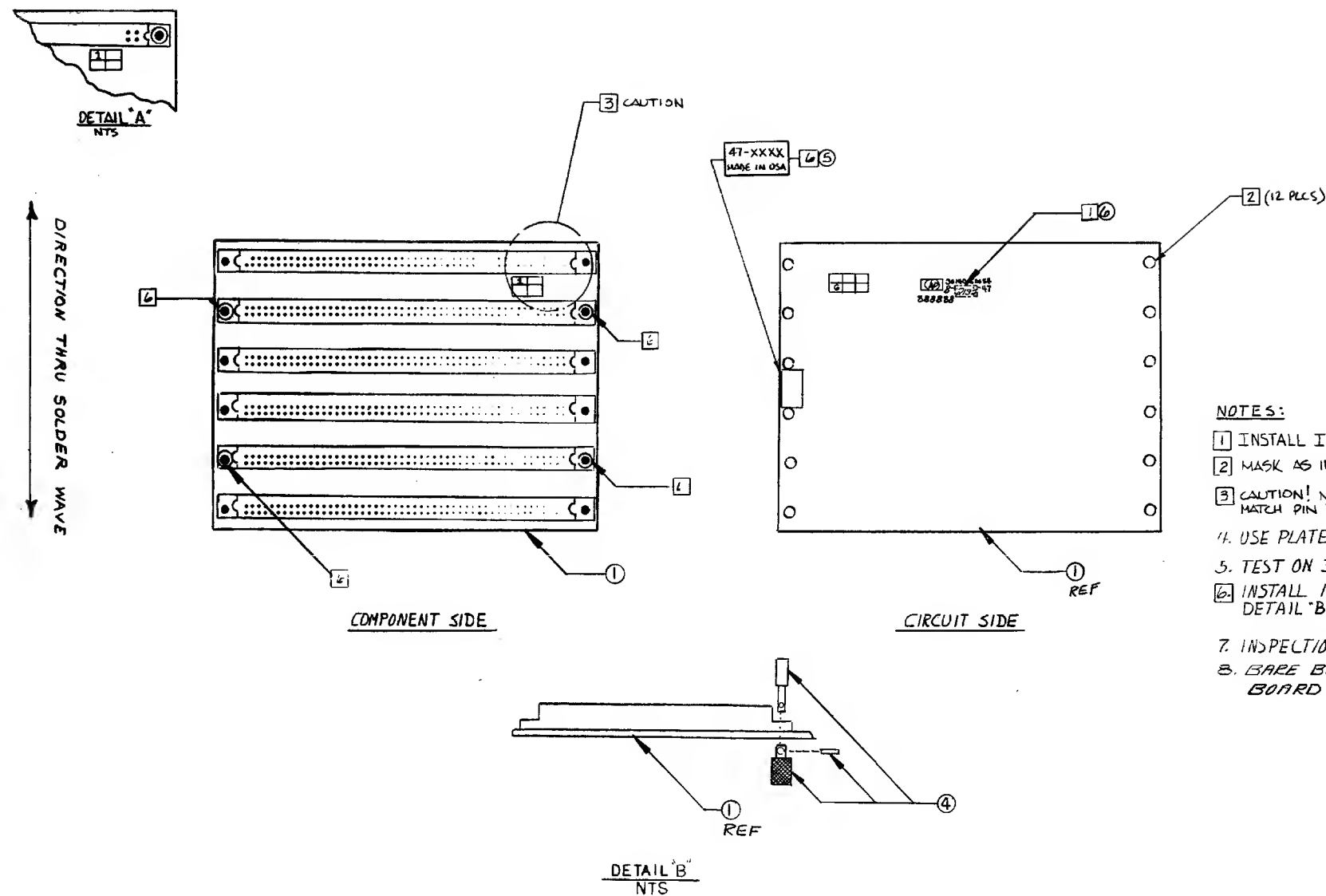


- NOTES:
1. INSTALL ITEM 6
  2. MASK AS INDICATE, USING AMBER COLORED TAPE.
  3. CAUTION! NOTE POSITION OF TAB INDICATOR ON CONNECTORS. SILKSCREEN NUMBERS DO NOT MATCH PIN DESIGNATORS ON CONNECTORS. SEE DETAIL "A".
  4. USE PLATE T-116712 TO SUPPORT CONNECTORS OVER SOLDER WAVE.
  5. TEST ON 3060
  6. INSTALL ITEMS 4 AND 5 BEFORE PRETEST. INSTALL ITEM 4 PER DETAIL "B" AS INDICATED (4 PLCS). USE TOOL NO. T-116717.
  7. INSPECTION CRITERIA - HP STD. SECT 410.
  8. BILL BOARD STAMP SHOULD BE ON THE BOARD BEFORE THE CONNECTORS ARE LOADED.



6	1	LABEL - DATE CODE	9320-5320
5	1	LABEL - WARR. DATE CODE	7120-6830
4	4	JACKSCREW KIT	1251-7252
3		DELETED	
2		DELETED	
1	1	PCB CPU FP UPPER	30140-60053
		ITEM	QTY

PCA-CPU FP UPPER ASSEMBLY DWG. TITLE COMP + CIRCUIT		HEWLETT PACKARD	
30140A		30140-60053	
PAPER		SCALE	
		D-30140-60053-2	



NOTES:

- 1 INSTALL ITEM 6
- 2 MASK AS INDICATED, USING AMBER COLORED TAPE.
- 3 CAUTION! NOTE POSITION OF TAB INDICATOR ON CONNECTORS. SILK SCREEN DO NOT MATCH PIN DESIGNATORS ON CONNECTORS. SEE DETAIL "A".
4. USE PLATE T-116712 TO SUPPORT CONNECTORS OVER SOLDER WAVE.
5. TEST ON 3060.
- 6 INSTALL ITEMS 4 AND 5 BEFORE PRETEST. INSTALL ITEM 4 PER DETAIL "B" AS INDICATED. (4 PLCS) USE TOOL NO. T-116719
7. INSPECTION CRITERIA-HP STD. SECT. 410.
8. BARE BOARD TEST STAMP. SHOULD BE ON THE BOARD BEFORE THE CONNECTORS ARE LOADED.

PROCESS REVIEW  
DATE 10-21-83

6	1	LABEL - DATE CODE	9320-8
5	1	LABEL WARR DATE CODE	7-83
4	4	JACKSCREW KIT	1251-7252
3		DELETED	
2		DELETED	
1	1	PCB CRIMP LOWE	

PCA CPU FP LWR. ASSY. DWG		HEWLETT PACKARD	
PART NUMBER 30140A		30140-60054	
FIGURE	SCALE	D-30140-60054-2	



I/O BAY PCA SCHEMATICS  
AND ASSEMBLY DRAWINGS

SECTION

III

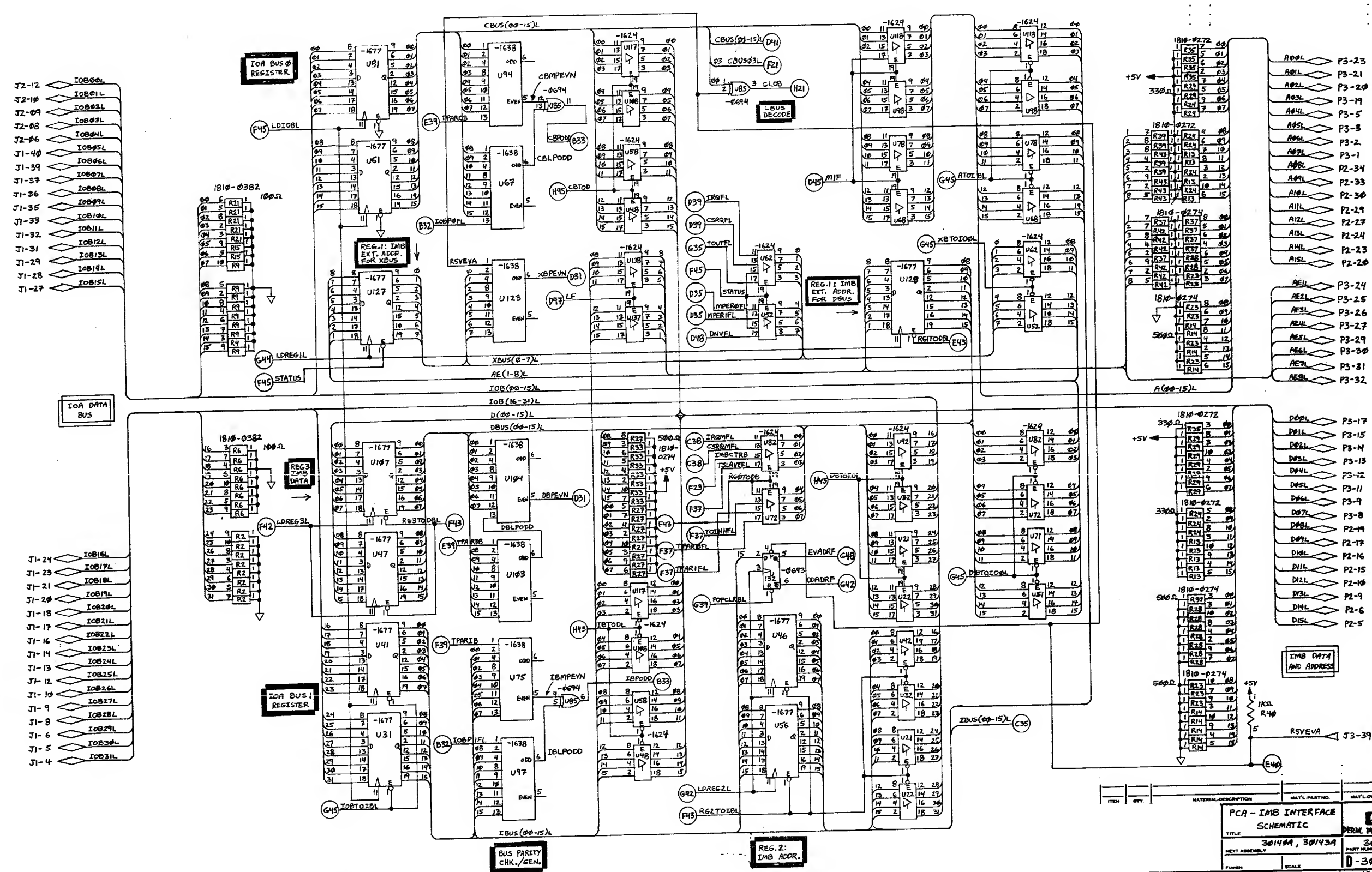
This section provides component location and schematic diagrams for the PCAs located in the I/O card cage of the System Processor Unit. The PCA diagrams appear according to an ascending part number sequence. A listing of this sequence is shown below along with drawing titles and page numbers.

P/N	DWG. TITLE	PAGE
F-30140-60016-10	PCA IMBI ASSY. DWG.	3-2
D-30140-60016-51	PCA IMBI SCHEMATIC	3-3
-52	"	3-4
-53	"	3-5
-54	"	3-6
D-30140-60016-55	"	3-7
D-30140-60021-6	PCA DUAL I/O BP CMP. SIDE	3-8
D-30140-60021-7	PCA DUAL I/O BP CRT. SIDE	3-9
C-30140-60021-51	PCA DUAL I/O BP SCHEMATIC	3-10
-52	"	3-11
-53	"	3-12
-54	"	3-13
C-30140-60021-55	"	3-14
F-31262-60001-18	PCA GIC ASSY. DWG.	3-15
D-31262-60001-16	PCA GIC SCHEMATIC 1 of 5	3-16
-16	" 2 of 5	3-17
-16	" 3 of 5	3-18
-16	" 4 of 5	3-19
D-31262-60001-16	PCA GIC SCHEMATIC 5 of 5	3-20

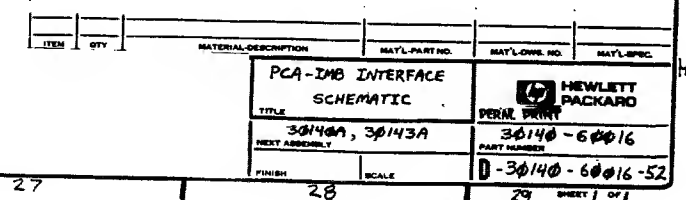


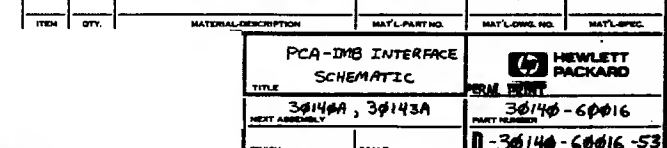
REF DWGS: F B ASSY.  
A-50 DATE CODE INFO.  
D-52 THRU D-55 SCHEM.

REVISED	REDAWN PER	PCO 47-3477	102 BS	17-72
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11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30
31	32	33	34	35
36	37	38	39	40
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46	47	48	49	50
51	52	53	54	55
56	57	58	59	60
61	62	63	64	65
66	67	68	69	70
71	72	73	74	75
76	77	78	79	80
81	82	83	84	85
86	87	88	89	90
91	92	93	94	95
96	97	98	99	100



ITEM	QTY	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L QTY NO.	MAT'L SPEC.
PCA - IMB INTERFACE					
SCHEMATIC					
301404, 301434					
301404-60016					
D-301404-60016-51					
SCALE					
SHEET 1 OF 1					

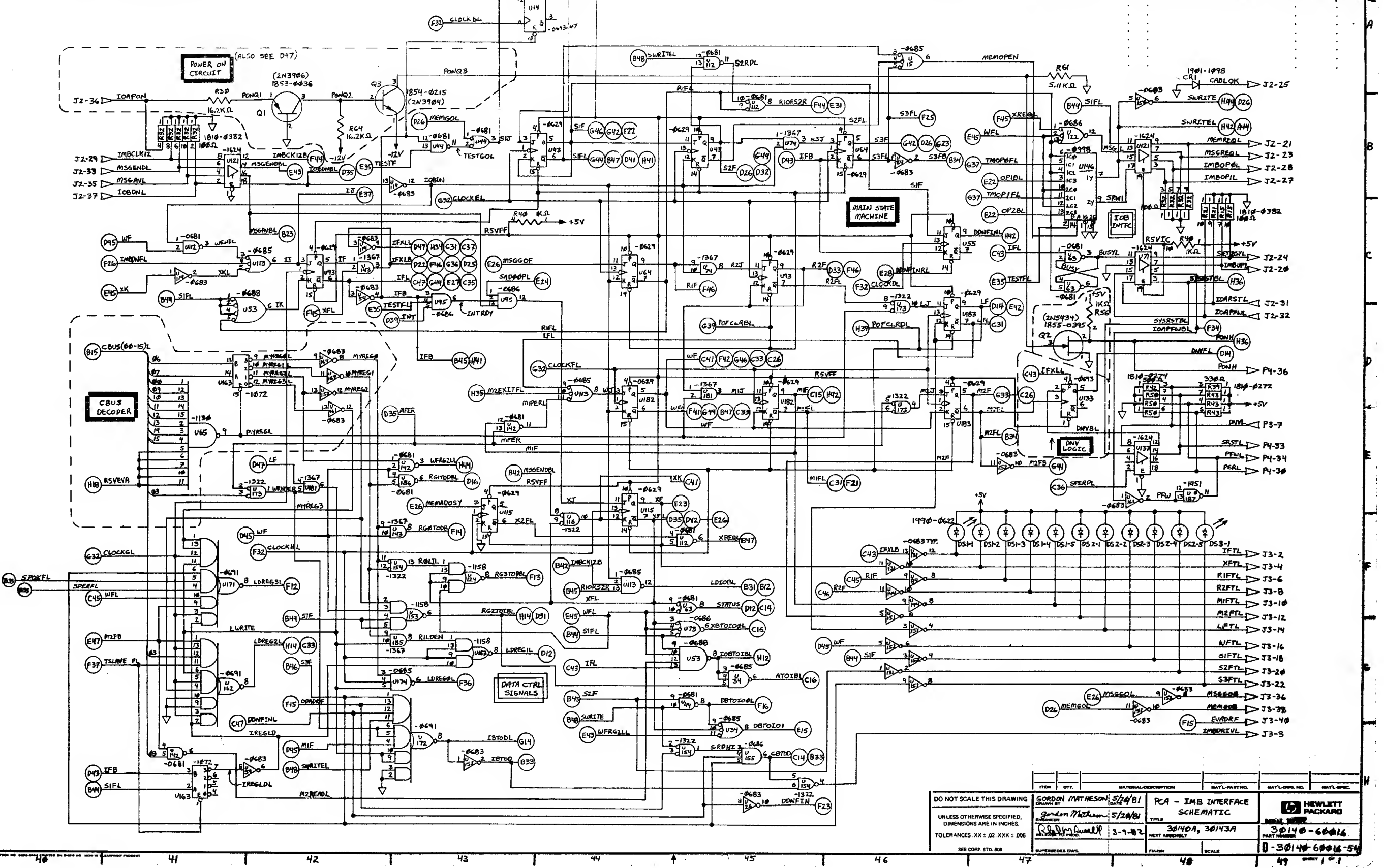




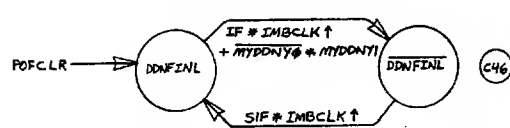
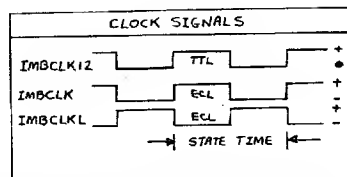
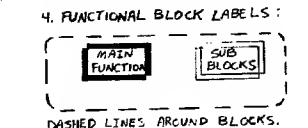
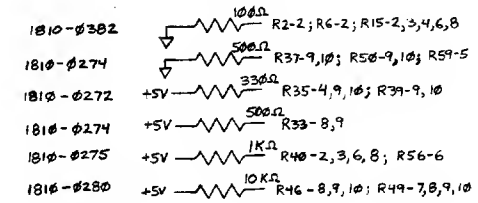


REF DWGS: F-8 ASSY.  
A-50 DATE CODE INFO.  
D-51, D-52, D-53, D-55 SC-EM.

DESIGNER RESPONSIBILITY										REVISIONS									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
GORDON MATHESON 5/24/81										PCA - IMB INTERFACE SCHEMATIC									
GORDON MATHESON 5/24/81										30140A, 30143A									
GORDON MATHESON 5/24/81										30140-60016-54									



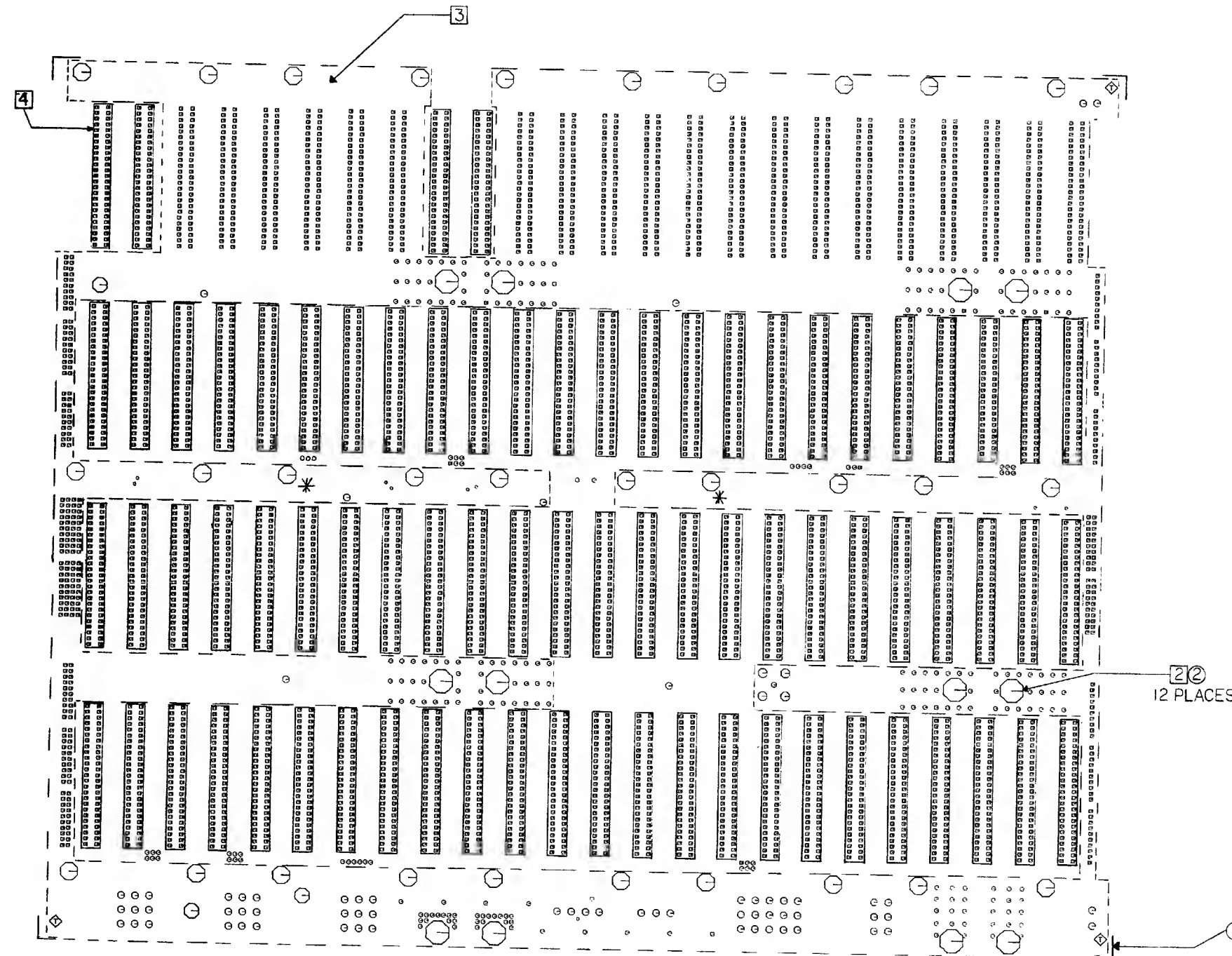




3-7

REF. DWGS.:

D-7 ASSY  
A-50 DATE CODE (IN)  
C-51 THR; C-55 SCAP



- NOTES:
1. MARK DATE CODE ON CIRCUIT SIDE
  2. INSTALL ITEM 2 12 PLACES (RIVET)
  3. MASK AS INDICATED ON CIRCUIT SIDE BEFORE LOADING, DO NOT MASK HOLES MARKED \*. (2 PLACES)
  4. LOAD CONNECTORS (76 PLACES)
  5. USE SUPPORT FIXTURE DURING WAVE SOLDER
  6. SEE D-7 FOR TOUCHUP.
  7. INSPECTION CRITERIA- HP STD. SECT 410

ENGINEERING RESPONSIBILITY												REVISIONS												APPROVED		DATE													
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
												18-3040-60021-2																											
												AS 18501 PER PC047-3502												BY		DATE													
												ADD NOTE 7, DOC 246												BY		DATE													
												Corrected Note 6: Doc Cha												BY		DATE													

REVIEW		2	12	NUT PT 6-32.062	0590-0970		
DATE 10-21-83		1	1	PCB-IOBP	30140-60021		
		ITEM	QTY	MATERIAL DESCRIPTION	MAT'L PART NO	MAT'L DWS NO	MAT'L SPEC
				PLA-LW. I/O BP			
				COMPONENT SIDE			
				TITLE			
				30140-60021			
				NEXT ASSEMBLY			
				30140-60021			
				FINISH			
				30140-60021-6			

D-6 ASSY  
A-50 DATE MOLE INFO  
C-51 THRU C-55 22450.



1. AFTER WAVE SOLDERING INSPECT ASSY. FOR SOLDER BRIDGES & RAISED CONNECTORS-TOUCHUP AS REQUIRED.
2. TEST FOR SHORTS.
3. LOAD REST OF COMPONENTS.

4] USING OHMMETER CHECK FOR GREATER THAN 1000 OHMS (OPEN CIRCUIT) BETWEEN ANY TWO POINTS. DO NOT USE A CONTINUITY CHECKER.

5 ATTACH ITEMS ① and ②.

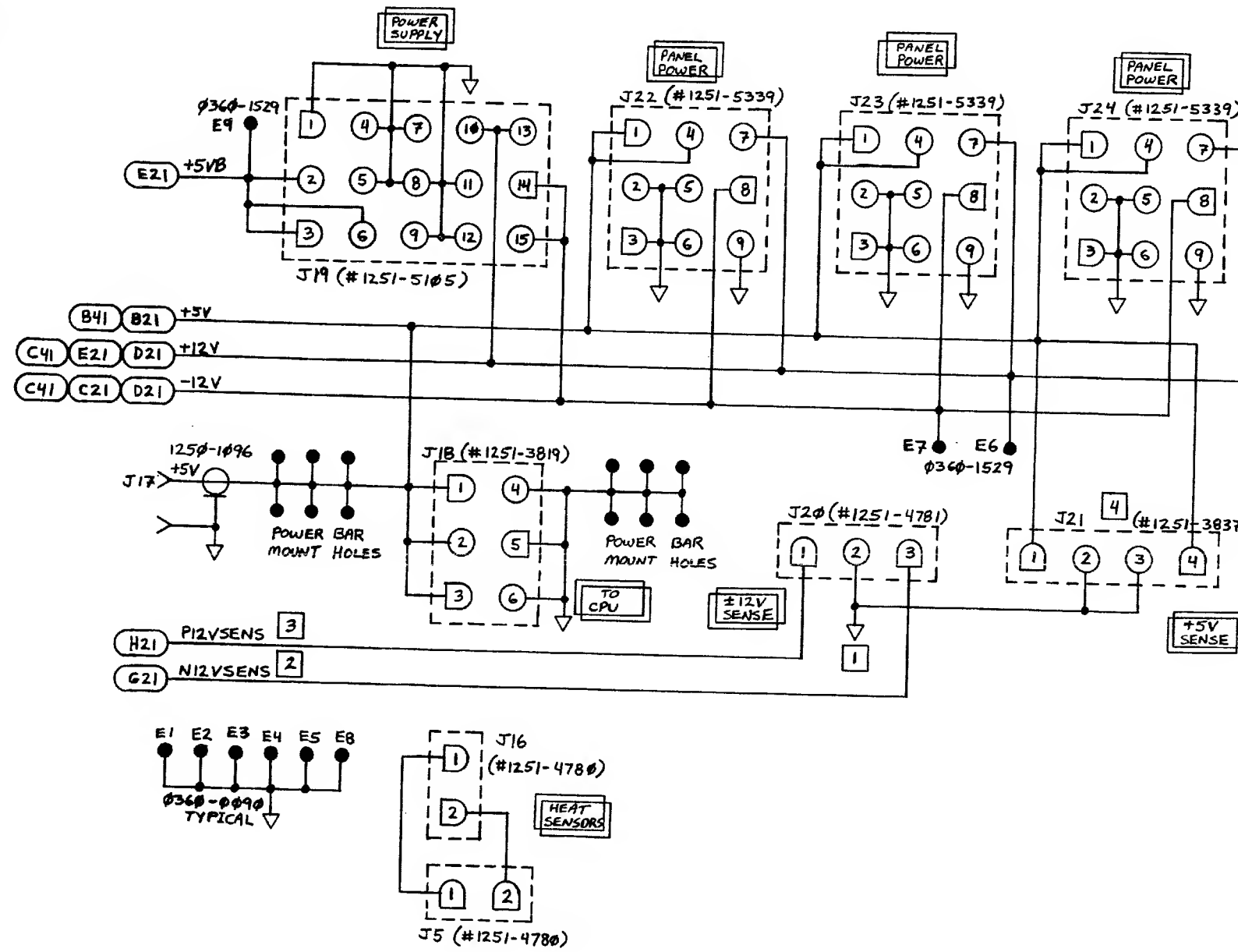
[6] DO NOT MASK

7 ADD ITEM ③

ENGINEERING RESPONSIBILITY <input checked="" type="checkbox"/> <b>SEPA</b> <input checked="" type="checkbox"/>													REVISIONS												
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24													BY DATE	APPROVED DATE											
<b>AS ISSUED PER PC-47-3502</b> ADDED 10-20-1988 BY: MT-8744 Revised By: PC-47-3818 ADDED NOTE 5: Dec Chg ADDED NOTE 6: PC-47-3879 ADDED NOTE 1: PC-47-3885													10-20-88 MT-8744	10-20-88 MT-8744											

PROCESS REVIEW		3		1		LABEL DATE CODE		9520-5520			
DATE 11-2-85 BY T. Walker		2		1		LABEL SERIAL NO.		9520-5520			
		1		1		LABEL PART NO.		7720-5520			
ITEM	QTY.	MATERIAL DESCRIPTION						MAYL PART NO.		MAYL QTY. NO.	
PCA-DUAL I/O BP CIRCUIT SIDE											
TITLE											
30140A											
NEXT ASSEMBLY											
SCALE 1:1											
D-30140-60021											

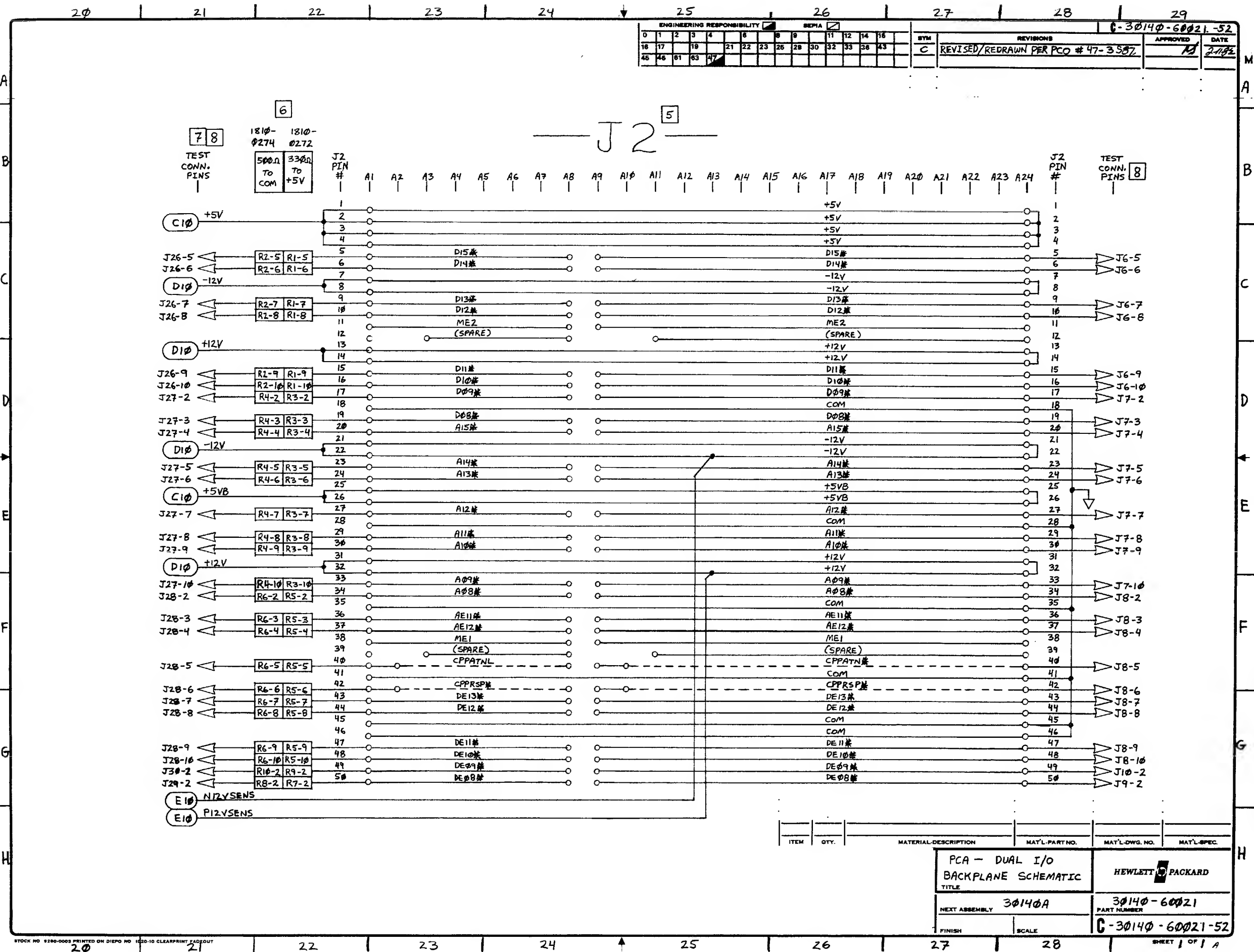
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20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59



# NOTES:

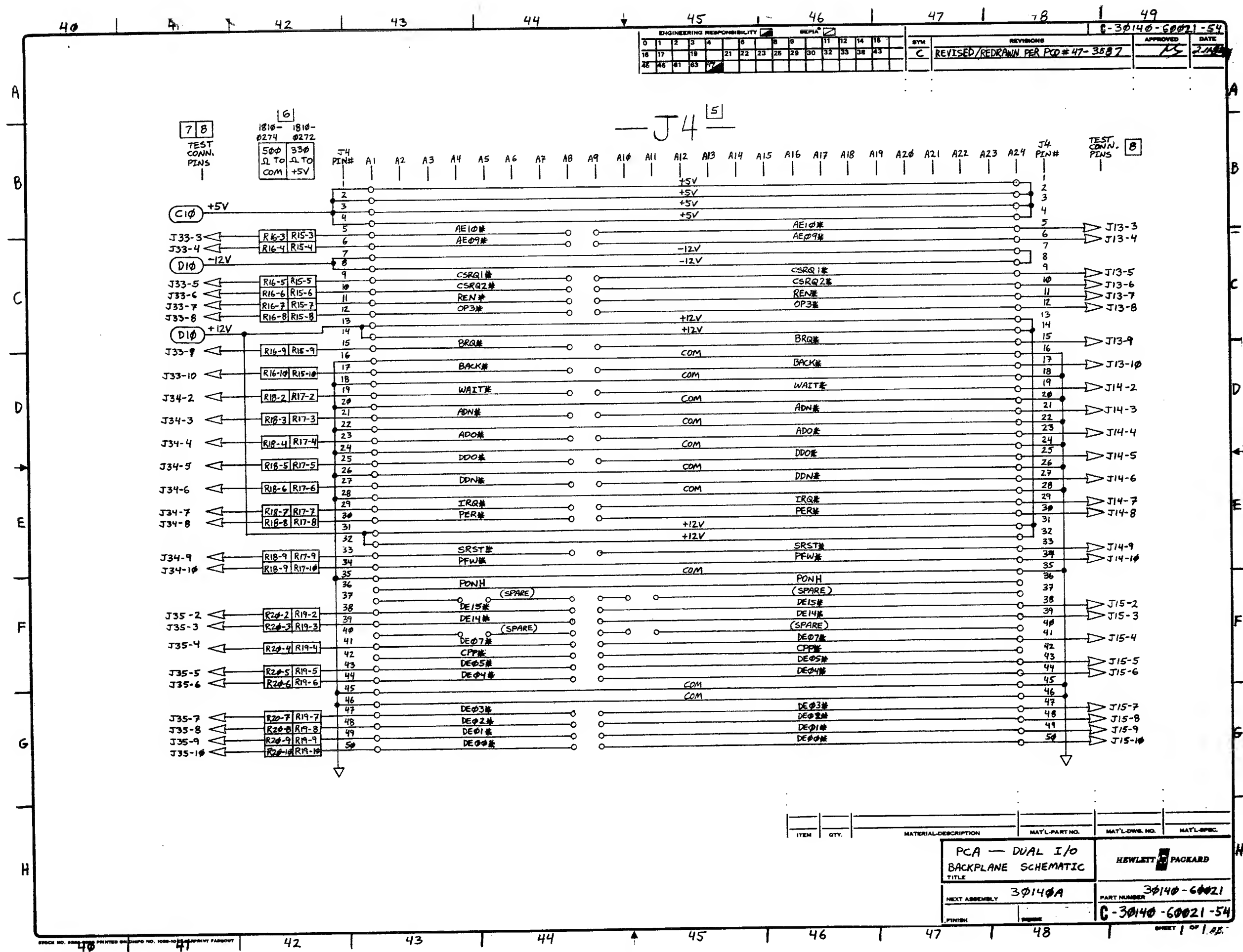
- J20-2, J21-2, J21-3 CONNECT TO COMMON PLANE AT BOARD CENTER BY A UNIQUE TRACE.
- J20-3 (NI2VSENS) CONNECTS TO A13J2-22 BY A UNIQUE TRACE.
- J20-1 (PI2VSENS) CONNECTS TO A13J2-32 BY A UNIQUE TRACE.
- J21-1, J21-4 CONNECT TO THE +5V PLANE AT BOARD CENTER BY A UNIQUE TRACE.
- A SIGNAL ATTACHES TO EACH CONNECTOR PIN UNDER WHOSE COLUMN THE SOLID LINE PASSES. BLANKS INDICATE GAPS IN THE TRACE. DASHED LINES INDICATE CONNECTION ONLY AT END POINTS OF THE DASHED LINE.
- RESISTORS ARE NOT INSTALLED. THEY ARE SHOWN HERE TO INDICATE BOARD LAYOUT ONLY. PIN 1 IS AT THE TOP.
- TEST CONNECTORS J26-J35 ARE INSTALLED IN LOCATIONS LAYED OUT FOR PULLDOWN RESISTORS R2, R4, R6, ..., R20, RESPECTIVELY.
- TEST CONNECTORS IN J6-J15 AND J26-J35 ARE PART NO. 1251-7117.
- ALL CONNECTOR PINS ON THIS SHEET ARE MALE. CONNECTORS ARE SHOWN AS VIEWED FROM BOARD CIRCUIT SIDE (SOLDER SIDE). KEYED CONNECTOR PIN CAVITIES ARE SHOWN BY "D" SHAPE DRAWN FOR THAT PIN.
- ALL SIGNALS WHICH END IN "X" ARE ACTIVE LOW (EQUIVALENT TO OVERBAR), AND ALL ACTIVE LOW SIGNALS HAVE NAMES WHICH END IN "X".

ITEM	QTY.	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L DWG. NO.	MAT'L SPEC.
PCA - DUAL I/O BACKPLANE SCHEMATIC					
TITLE			HEWLETT-PACKARD		
NEXT ASSEMBLY			30140A		
FINISH			SCALE		
PART NUMBER			30140-60021		
SHEET 1 OF 1			C-30140-60021-51		





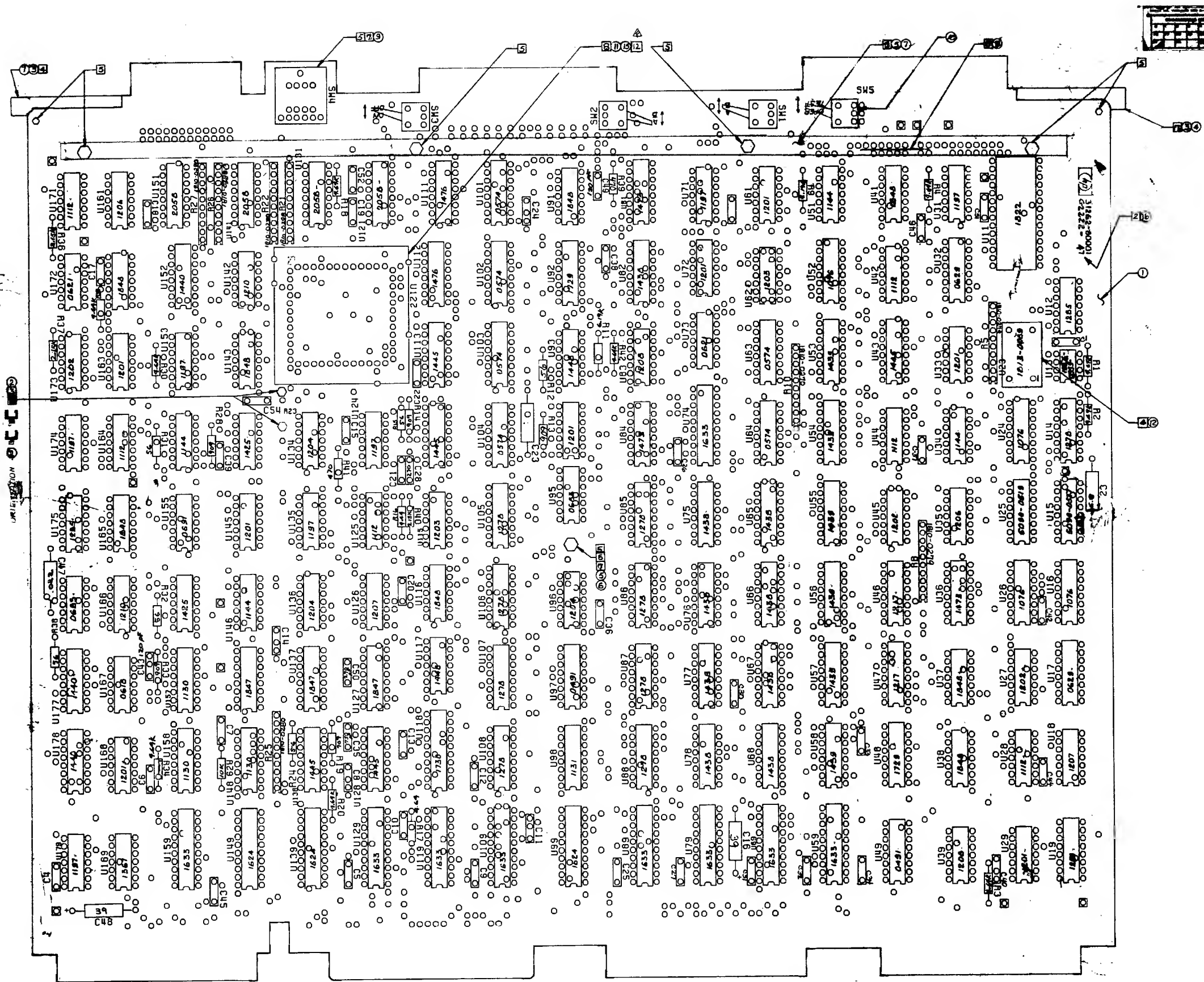




ITEM	QTY.	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L DWS. NO.	MAT'L SPEC.
PCA - DUAL I/O BACKPLANE SCHEMATIC					
TITLE			HEWLETT-PACKARD		
NEXT ASSEMBLY			PART NUMBER		
FINISH			C-30140-60021-54		







# NOTES:

1. UNLESS OTHERWISE SPECIFIED:  
ALL RESISTANCE IN OHMS.  
ALL RESISTORS 1/4 W 1% MF.  
EXCEPT 56 & 470 ARE 5%.  
ALL CAPACITANCE IN MICROFARADS.  
ALL CAPACITORS ARE .01 CER. DISC.  
ALL SWITCHES ARE 3101-2597  
ALL I.C.'S ARE 1820-
2. INSTALL ITEM 10
3. INSTALL & RIVET ITEM 2 PLACES PRIOR TO LOADING ANY COMPONENTS. ORIENTATION AS SHOWN AT LEFT OF NOTATION SYMBOL.
4. ORIENT Y1 WITH MANUFACTURER. ORIENTATION SYMBOL AT LOWER RIGHT. BODY OF ITEM 10 MUST BE SPACED FROM BOARD WITH ITEM 10 OR SELF CONTAINED SPACERS. TRASH AS INDICATED PRIOR TO WAVE SOLDER. USE SUPPORT PICTURE DURING WAVE SOLDER.
5. INSTALL ITEMS 3, 4 & 6 IN P.C. PINNACLE ASSEMBLY.
6. INSTALL ITEM 11 IN U122 AFTER DTS-70 TEST, & SOLDER RES. RES. OF VALUE STAMPED ON 11 ACROSS THE TWO ITEMS 10. USE ANTI STATIC PROTECTION BEFORE HANDLING ITEM 11.
7. SERIALIZE BOARD
8. SCHEMATIC 3-31262-60001-16.
9. ITEM 12 NEAR HP 1000.
10. NOTE: R23 RES. VALUE MAY NOT MATCH VALUE STAMPED ON ITEM 12. SYSTEM TEST IS COMPLETE.

ITEM	QTY	DESCRIPTION	REVISION	DATE
16	1	LABEL - DATE CODE	9320-5320	
16	2	SOCKET CLIPS	1820-0844	
16	1	LABEL, WARRANTY	7180-6880	
16	4	HEAD SPACER	4550-0866	
16	1	E.C. INCHES (W)	1818-0888	
11	1	PIVOT	1846-6004	
10	1	SWITCH	3101-2597	
9	1	SWITCH, THERMAL 16 POS	3100-3415	
8	1	LABEL	7120-6600	
7	1	BRACE, PC BOARD	5040-6056	
6	1	SPACER	5080-2816	
5	5	SCREW 4-40 X .31	5080-0077	
4	2	EXTACTOR	5040-6008	
3	2	PIN SW., .085 X .280	1480-0116	
2	1	SOLDER TERM.	5080-1148	
1	1	SWITCH, THERMAL	3100-3415	
GENERAL 178				
CHAMBER ASSY.				
31262-60001-18				
H11				
H11				

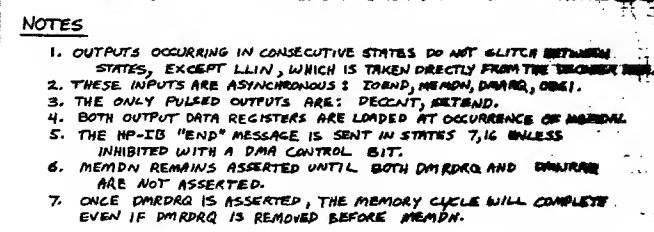












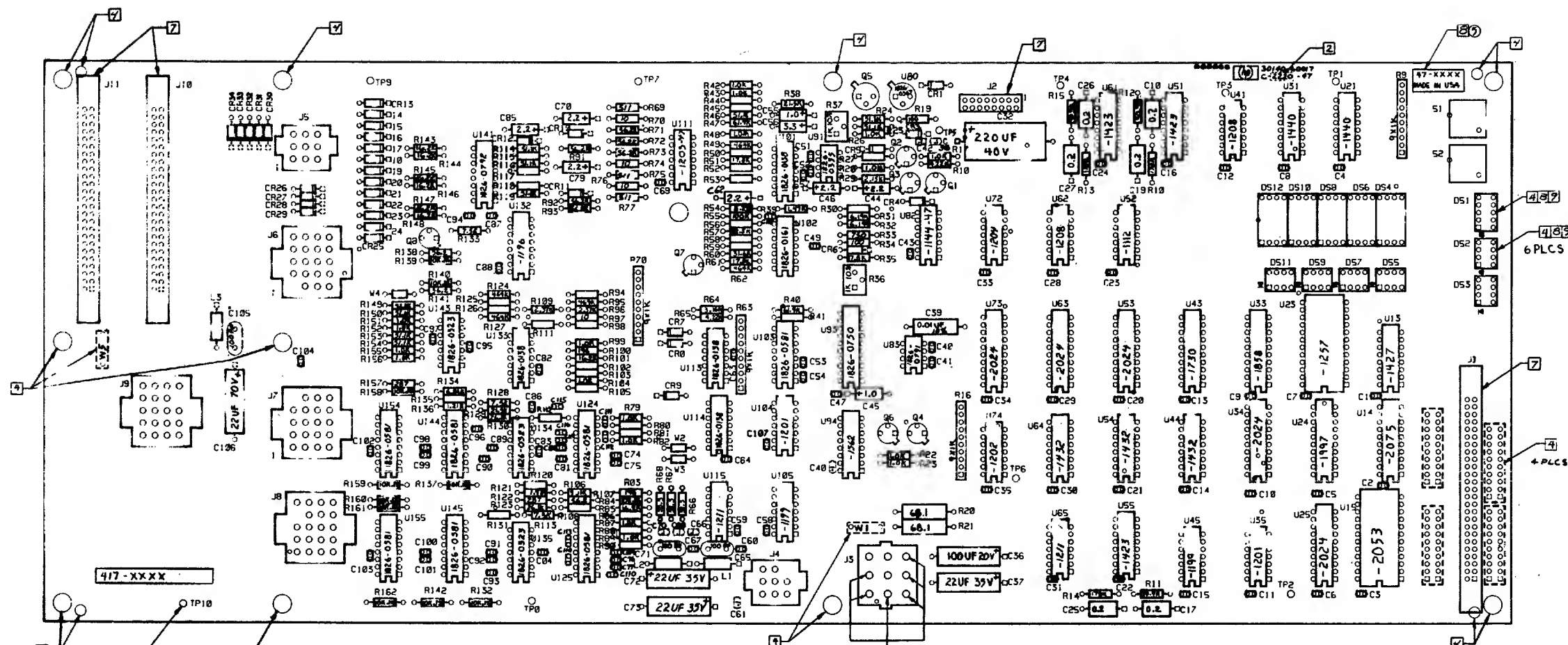
DC POWER PCAs A/B

SECTION

IV

This section provides component location and schematic diagrams for the PCAs located in the power section of the System Processor Unit. The PCA diagrams appear according to an ascending part number sequence. A listing of this sequence is shown below along with drawing titles and page numbers.

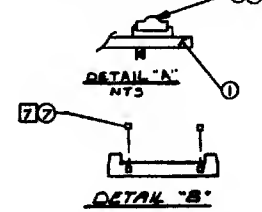
P/N	DWG. TITLE	PAGE
E-30140-60017-7	PCA PSC ASSY. DWG.	4-2
D-30140-60017-51	PCA PSC SCHEMATIC	4-3
-52	"	4-4
-53	"	4-5
-54	"	4-6
D-30140-60017-55	"	4-7
D-30140-60022-3	PCA SSDP ASSY. DWG.	4-8
D-30140-60022-51	PCA SSDP SCHEMATIC	4-9
D-30140-60022-52	"	4-10
D-30140-60024-1	PCA MSD (PS1) ASSY. DWG.	4-11
D-30140-60025-1	PCA BSD (PS4) ASSY. DWG.	4-12
F-30140-60091-1	PCA PDM ASSY. DWG.	4-13
D-30140-60091-51	PCA PDM SCHEMATIC	4-14
-52	"	4-15
D-30140-60091-53	"	4-16
D-30140-60092-1	PCA SSDP-B ASSY. DWG.	4-17
D-30140-60092-51	PCA SSDP-B SCHEMATIC	4-18



**NOTES:**

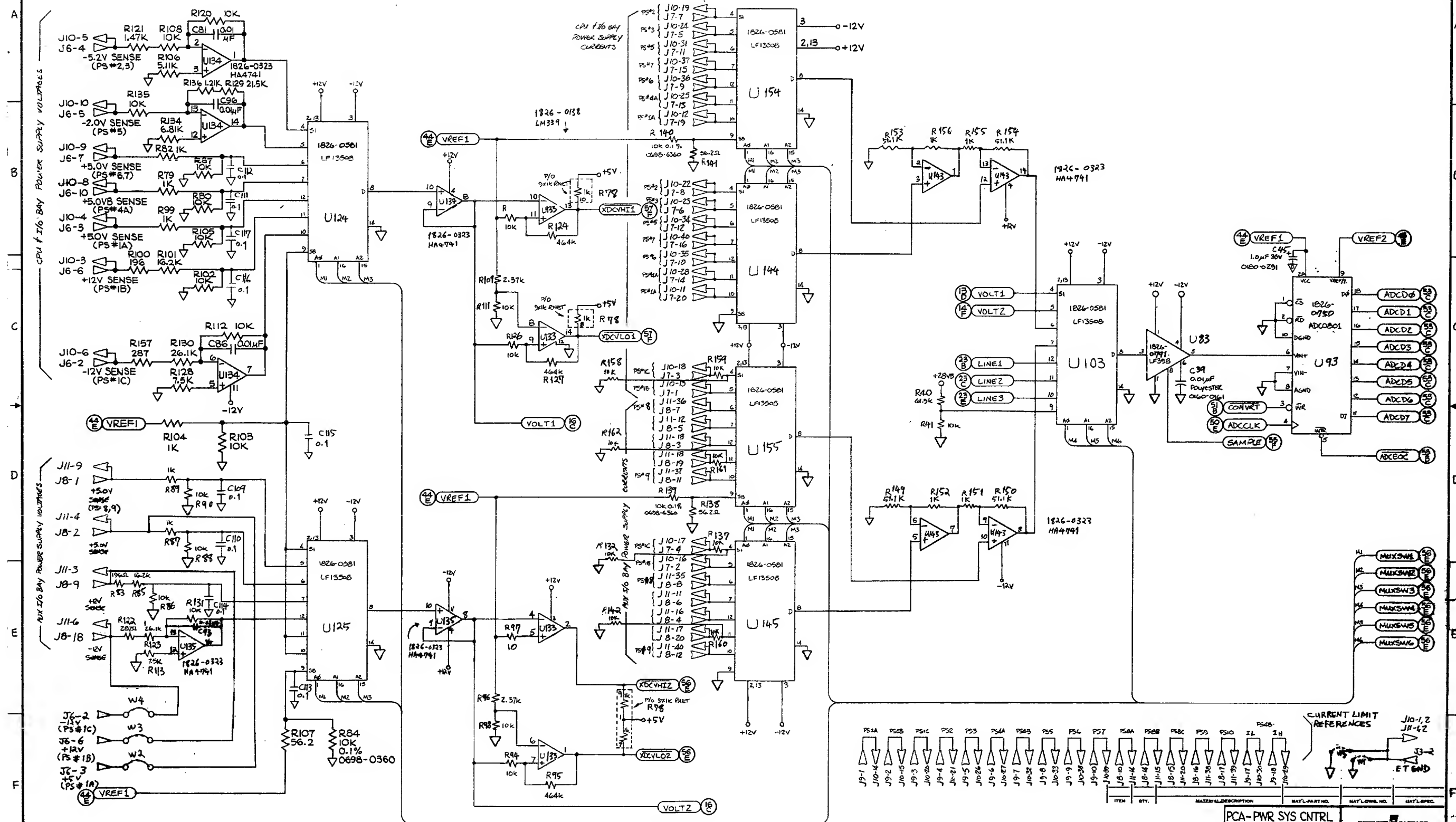
- 1. UNLESS OTHERWISE SPECIFIED:  
ALL RESISTANCE IN OHMS  
ALL RESISTORS ARE 10K  
ALL CAPACITANCE IN MICROFARADS  
ALL CAPACITORS ARE .01UF (0160-5352)  
ALL IC'S ARE 1820-
- 2. INSTALL ITEM ②
- 3. INSTALL ITEM ② 10 PLACES
- 4. MASK AS INDICATED PRIOR TO LOADING
- 5. ALL BOARD LOADING & HANDLING MUST BE DONE AT AN ELECTROSTATIC DISCHARGE PROTECTED WORK STATION CONTAINING TABLE & FLOOR MATS & GROUNDED WRIST STRAP. TRANSPORT ASSEMBLY IN ELECTROSTATIC BAGS.
- 6. REMOVE UNUSED PINS FROM J4, J6, J7, J8 & J9 PRIOR TO LOADING.
- 7. INSTALL ITEM ① INTO J1, J2, J10, J11 PER DETAIL "B"

- ② LOAD ITEMS ③ THRU ⑥ IN TOUCHUP
- ③ LOAD ITEMS ③ & ④ PER DETAIL "A". USE FORM TOOL T-116724.
- ④ USING AN OHMMETER CHECK FOR A RESISTANCE OF GREATER THAN 25 OHMS BETWEEN EACH OF THESE 5 POINTS
- 11. INSPECTION CRITERIA, HP STD. SEC. 410

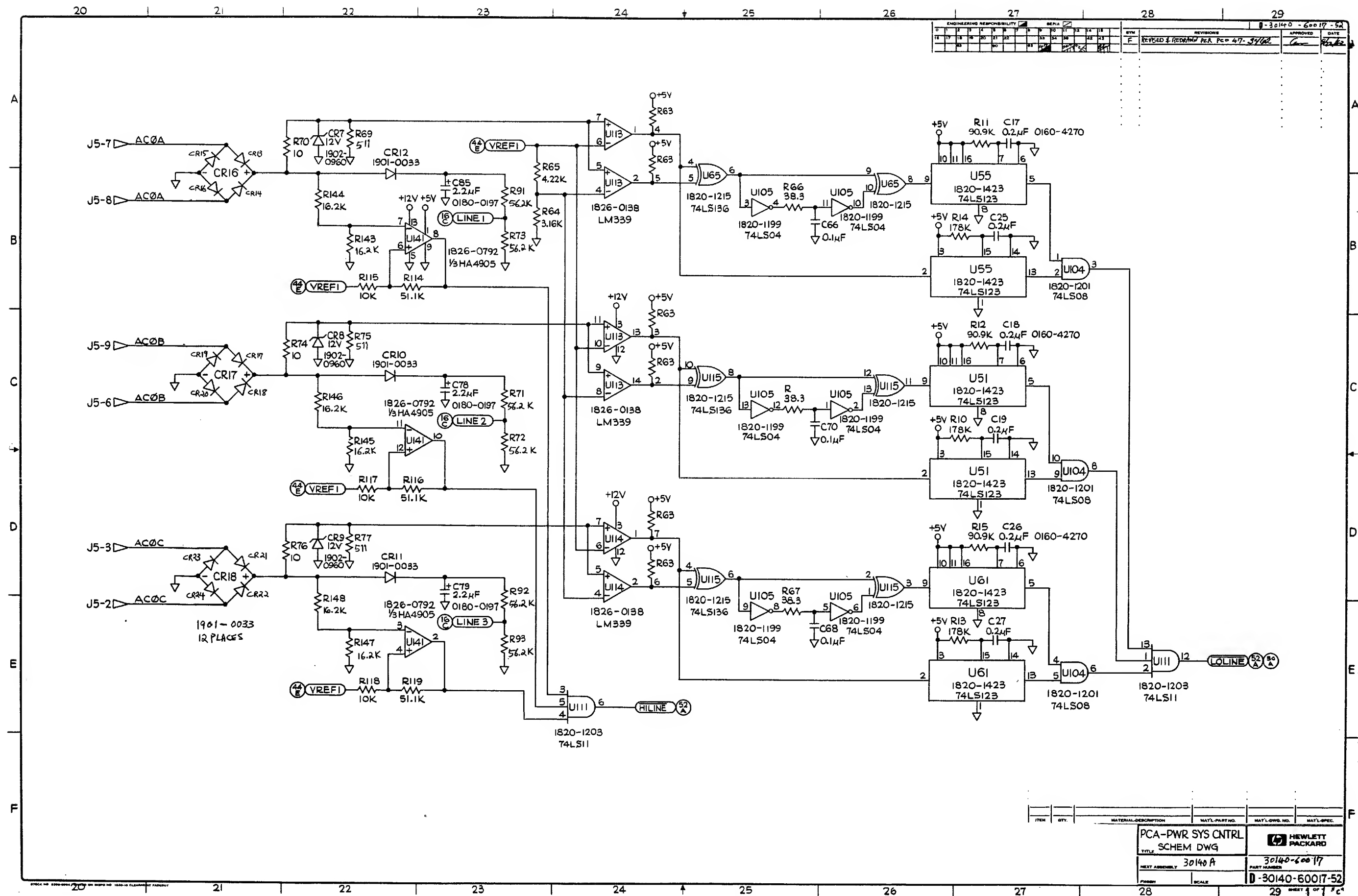


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DESIGN RESPONSIBILITY										REVISIONS										APPROVED										DATE									
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REVISED & REDRAWN PER PCD 49-3762										E										D										7/2/74									



PCA-PWR SYS CNTRL		HEWLETT PACKARD	
SCHEM DWG		30140-60017	
30140A		PART NUMBER	
NEXT ASSEMBLY		D-30140-60017-S1	
FORM		SCALE	







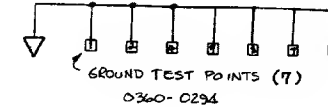
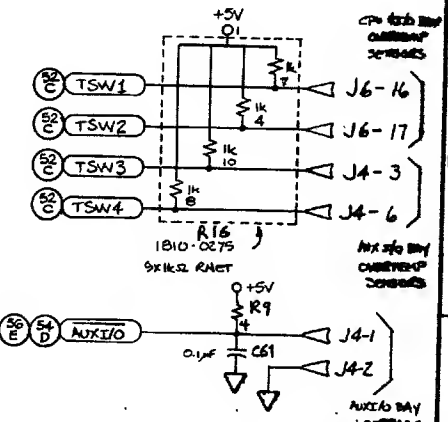
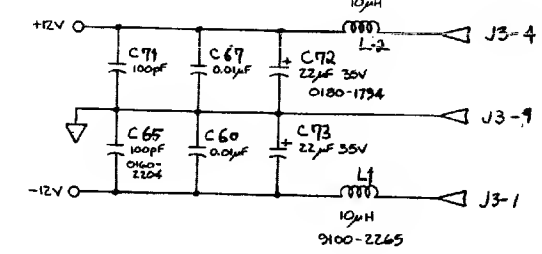
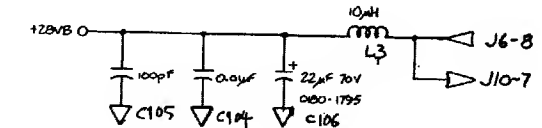
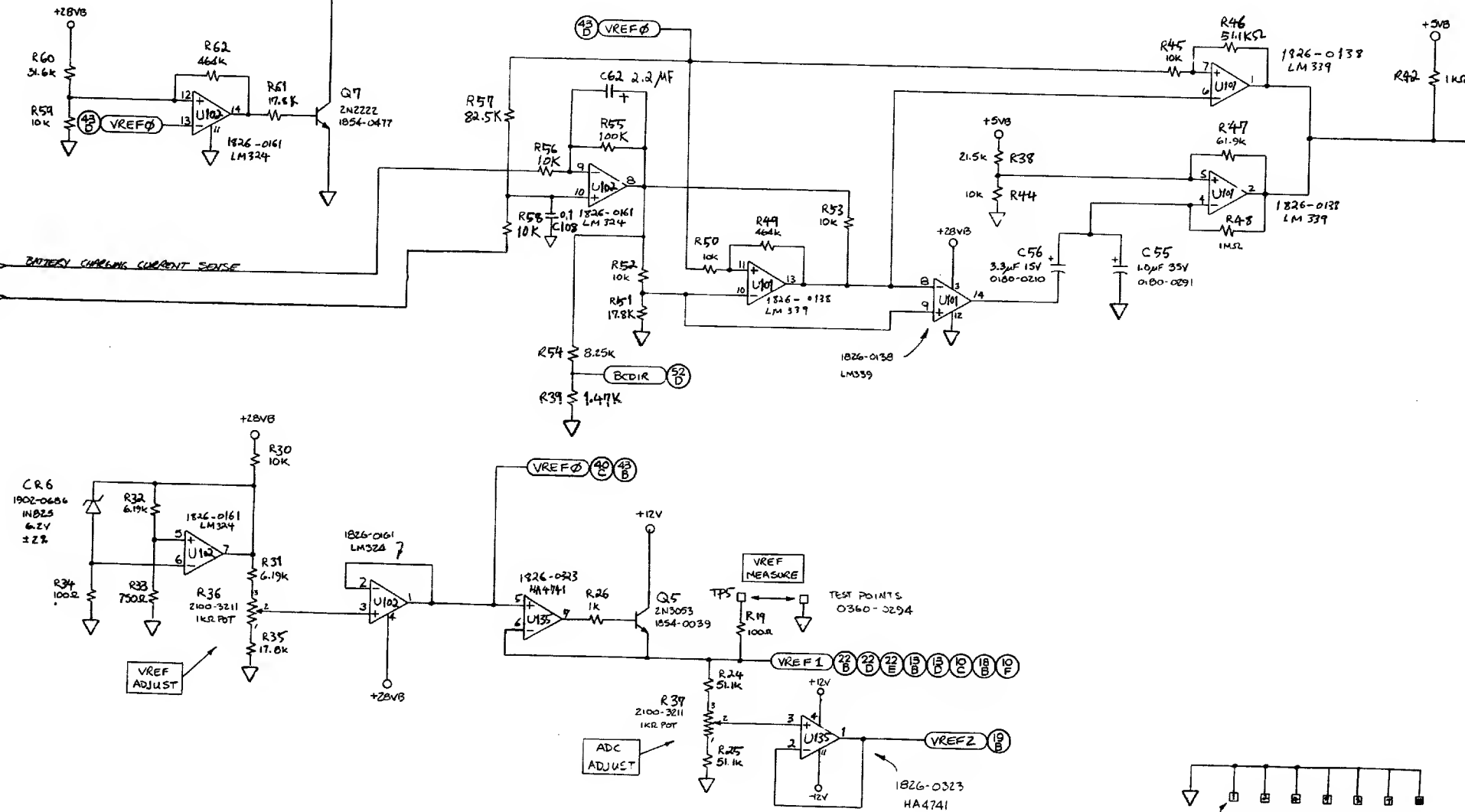
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REV	DESCRIPTION	DATE
D	REVISED & REDRAWN PER PCO 47-3322	7/27/82

J6-11 BATTERY DROPOUT RELAY CONTROL

J6-14 BATTERY CHARGING CURRENT SENSE

J9-18



ITEM	QTY.	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L LOWE'S NO.	MAT'L SPEC.
PCA-PWR SYS CNTRL					
SCHEM DWG					
HEWLETT-PACKARD					
30140A					
30140-60077					
D-30140-60017-54					
49					



Ref Dwg:  
A-50 DATE CODE INFO.  
D-51 Schematic  
D-52 Schematic

STOCK NO 1100 FIRST REV D-MATERIAL COPY 114 RED TAG											
ENGINEERING RESPONSIBILITY						REVISIONS					
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Ref: Dwg  
D-3 Assy  
D-51 Schematic  
A-50 DATE CODE INFO.

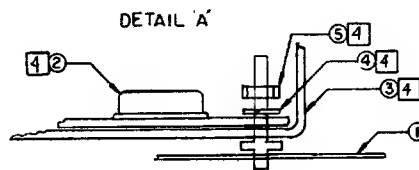
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1) INSTALL ITEM ⑦  
2) INSTALL ITEM ② IO PLACES IN RIVET  
3) LINE UP COMPONENTS IN TOUCH-UP  
4) INSTALL ITEMS ③ AND ④ ON CIRCUIT SIDE  
INSTALL ITEM ⑥ ON COMPONENT SIDE

PCA-BSD (PS4)		 HEWLETT PACKARD
ASSY. DWG.		
TITLE	30140A	30140-60025
NEXT ASSEMBLY	2:1	0-30140-60025
PRINT	SCALE	

[illegible]

1. UNLESS OTHERWISE SPECIFIED:  
ALL RESISTANCE IN OHMS  
ALL CAPACITANCE IN MICROFARADS  
ALL CAPACITORS .1 (0160-4685)  
ALL IC'S ARE 1820-
2. INSTALL ITEM ⑧
3. MASK AS INDICATED PRIOR TO LOADING
4. ASSEMBLE ITEMS ② THRU ⑤ PRIOR TO  
LOADING PER DETAIL "A"
5. ALL BOARD LOADING AND HANDLING  
MUST BE DONE AT AN ELECTROSTATIC  
DISCHARGE PROTECTED WORK STATION  
CONTAINING TABLE AND FLOOR MATS  
AND GROUNDED WRIST STRAP.  
TRANSPORT ASSEMBLY IN ELECTROSTATIC BAGS.
6. REMOVE UNUSED PINS FROM J3, J4, J6, J7, J8 & J9 PRIOR TO  
LOADING.
7. USE SUPPORT FIXTURE DURING WAVE SOLDER.
8. LOAD ITEMS ⑥ & ⑦ IN TOWN UP.
9. AFTER WAVE SOLDERING;  
USE AN OHMMETER CHECK FOR A RESISTANCE  
OF GREATER THAN 25 OHMS BETWEEN THESE 3  
POINTS.
10. PRETEST USING THE GOLD TEST SYSTEM.
11. INSPECTION CRITERIA, HP STD. SEC. 410.

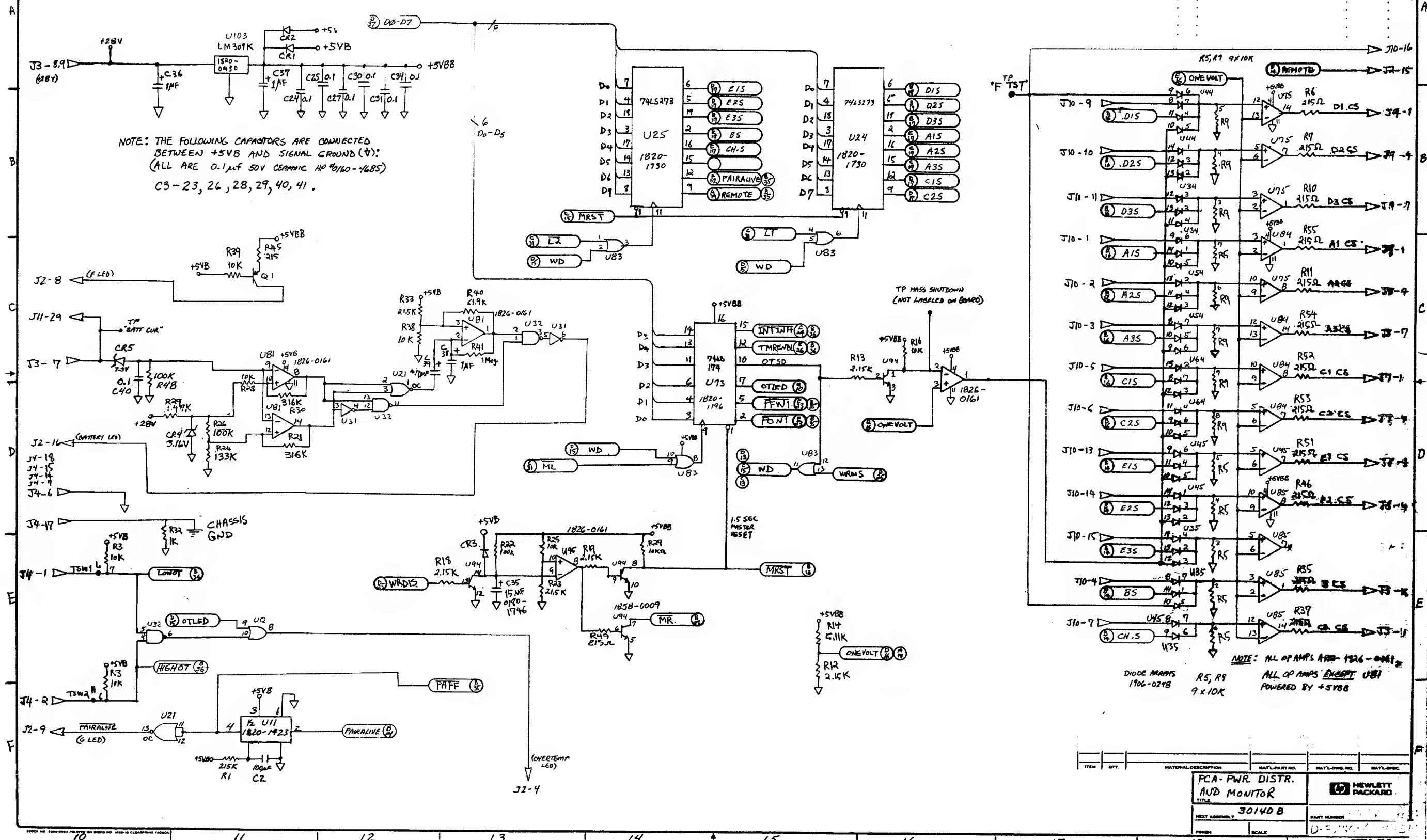
8	1	LABEL - DATE CODE	4330 - 6320		
7	1	LBL. SERIAL	2150 - 4750		
6	1	LBL. WARR. DATE CD	725 - 685		
5	2	NUT	2150 - 0003		
4	2	WASHER - LK	2150 - 0851		
3	1	NO - 3 HEATSINK	705 - 0516		
2	1	TO - 3	150 - 0430		
1	1	PCB	080 - 60091		

DATE	DATE	DATE	DATE
PCB - PDM	PCB - PDM	PCB - PDM	PCB - PDM
ASSY. DWG.	ASSY. DWG.	ASSY. DWG.	ASSY. DWG.
TYPE	TYPE	TYPE	TYPE
30140	30140	30140	30140
30140-60091	30140-60091	30140-60091	30140-60091
1/51	1/51	1/51	1/51
F-30140-60091-1	F-30140-60091-1	F-30140-60091-1	F-30140-60091-1

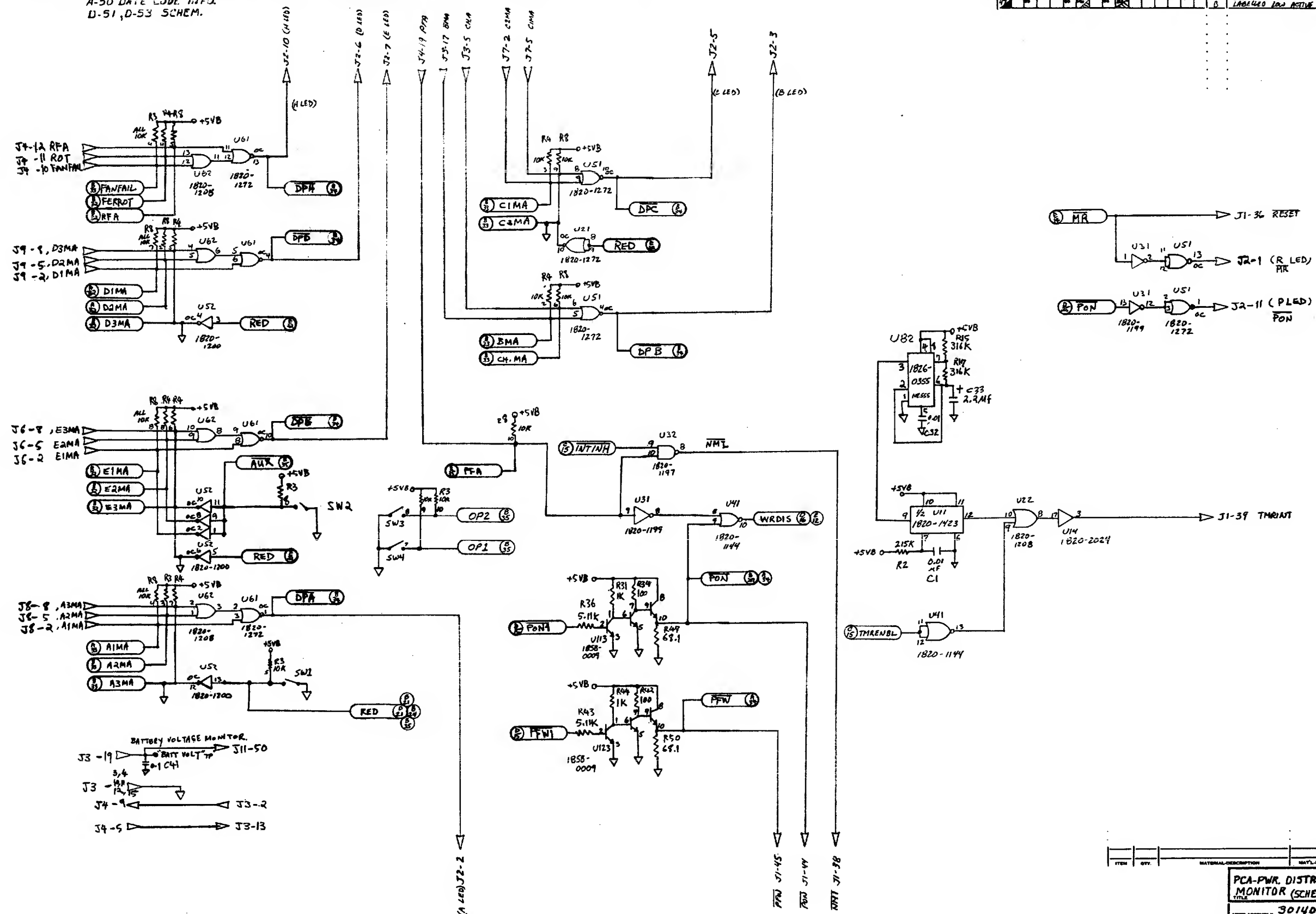
REF. DWGS: F-1 ASSY.  
A-50 DATE LOG INFO.  
D-52, D-53 SCHEM.

ENGINEERING RESPONSIBILITY										REVISIONS										DATE									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
BY: AS										ISSUED										3/10/70									
BY: L										LABELED LOW ACTIVE SIGNALS 47.5007										3/10/70									
BY: M										DRYED PWS FOR PWS 47.5007										3/10/70									



REF. DWGS: F-1 ASSY  
A-50 DATE CODE INFO.  
D-51, D-53 SCHEM.

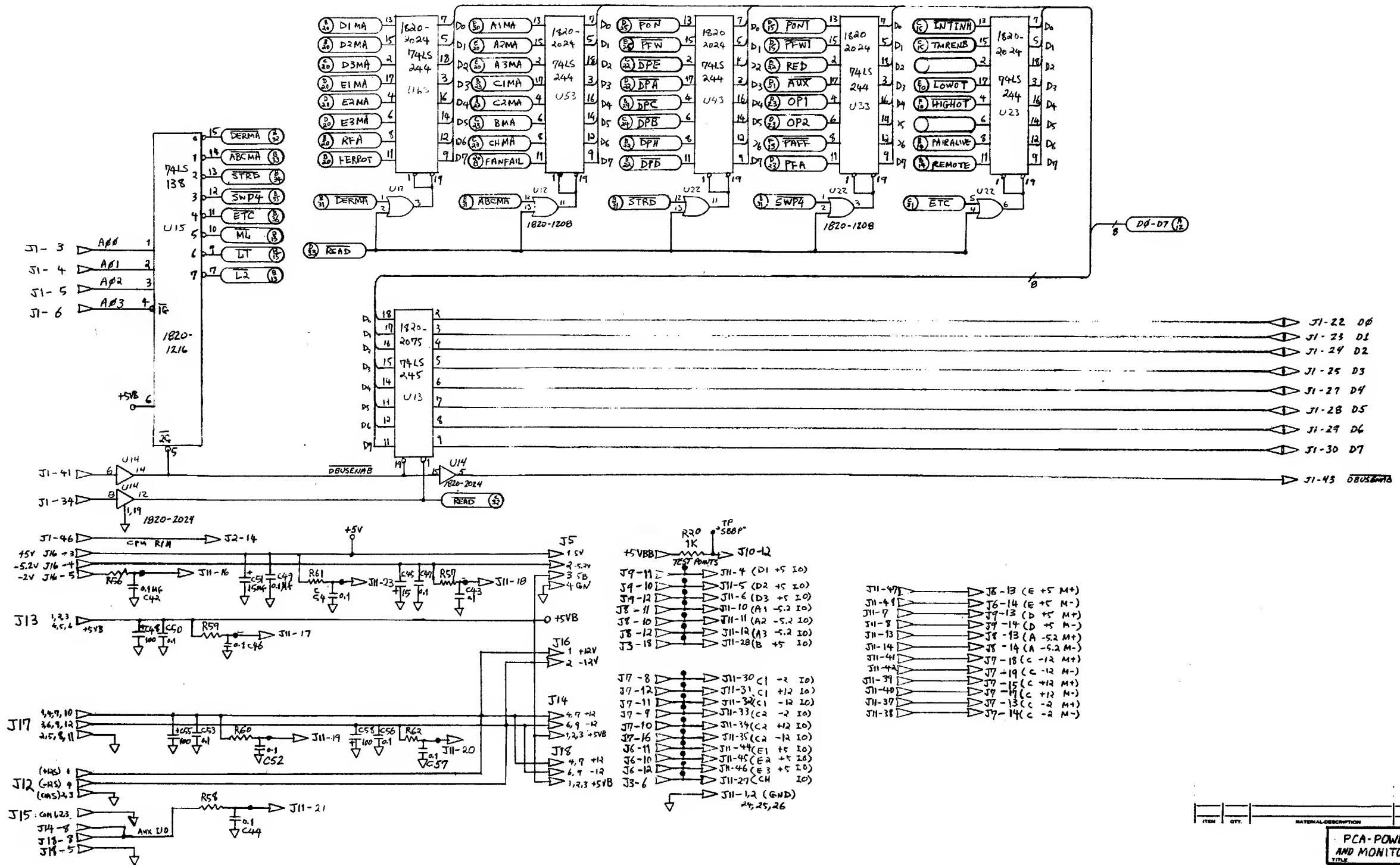
REVISIONS									
REV	DATE	BY	APP	REASON	DATE	BY	APP	REASON	DATE
1				AS ISSUED					
2				LABELED INJ ACTIVE SIGNALS 47-307					



ITEM	QTY	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L LOWE NO.	MAT'L SPEC.
PCA-PWR. DISTR. AND MONITOR (SCHEMATIC)					
301408					
HEWLETT PACKARD					
D-301408-001					

REF. DWGS: F-1 ASSY  
 A 53 DATE OF INFO.  
 D-52, D-53 SCHEM.

ENGINEERING RESPONSIBILITY										REVISIONS										APPROVALS									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
BY										DATE										BY									
A										AS ISSUED										JHP									
B										UNCLASSIFIED LOW ACTIVE SURVIVAL TT-3007										DCA									

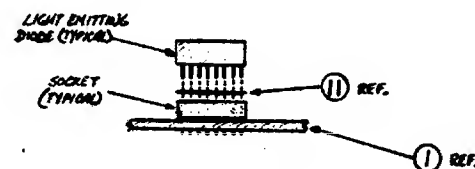


ITEM	QTY.	MATERIAL DESCRIPTION	MAT'L. PART NO.	MAT'L. QTY. NO.	MAT'L. SPEC.
PCA-POWER DISTR. AND MONITOR (SCHEMATIC)					
TITLE 301408					
NEXT ASSEMBLY 301408					
PART NUMBER 301408-60091-53					
FINISH SCALE D-30140-60091-53					



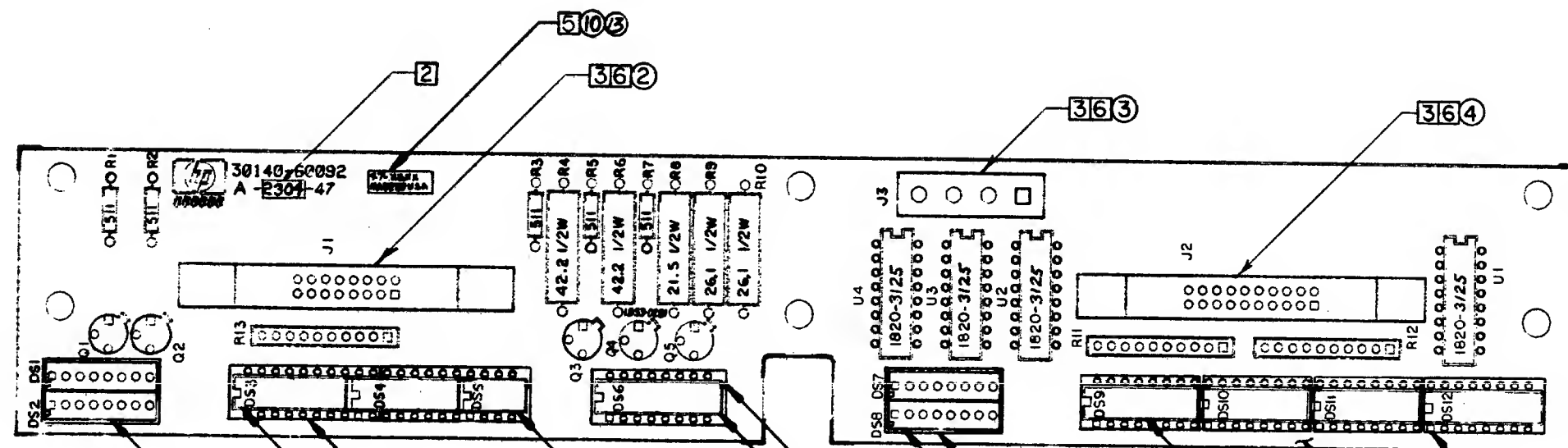
REF. DWG.:  
D-51 SCHEMATIC

REV	DESCRIPTION	DATE
1	AS ISSUED	12/2/82
2	REVISED PER R.D. 47-2784	3/2/83
3	ITEM 14 WAS ADDED PER R.D. 47-3874	5/16/83
4	REVISIONS ADDED PER R.D. 47-3874	11/2/83

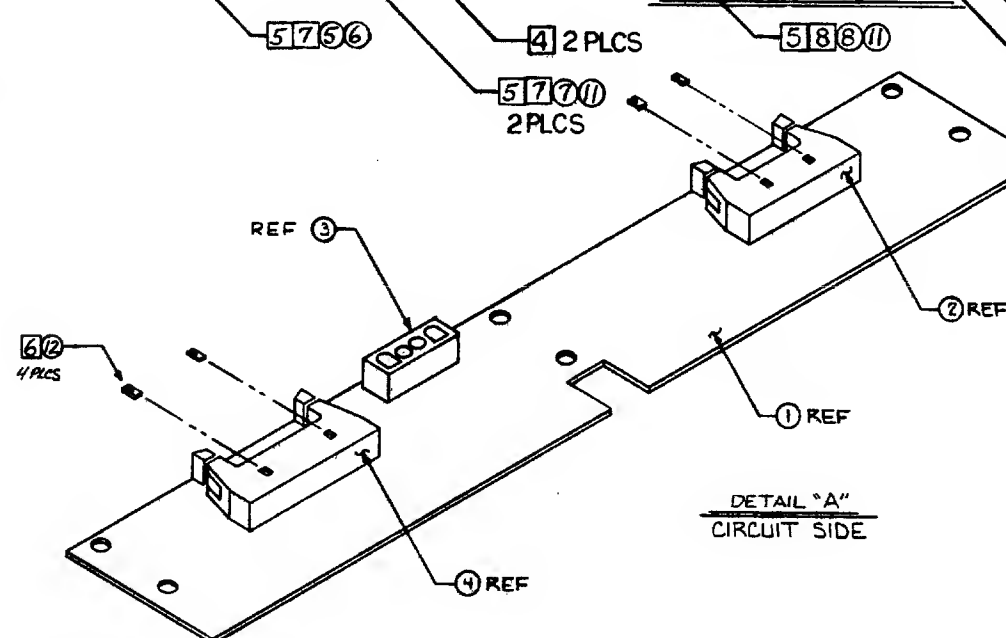


DETAIL "B"  
SIDE VIEW

DIRECTION THRU SOLDER WAVE



COMPONENT SIDE VIEW



DETAIL "A"  
CIRCUIT SIDE

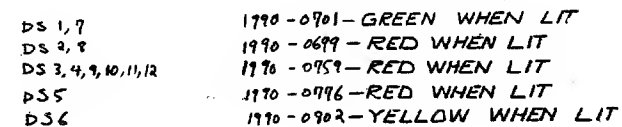
- NOTES:
- UNLESS OTHERWISE SPECIFIED  
ALL RESISTANCE IN OHMS  
ALL TRANSISTORS ARE 1854-0477  
ALL NETWORK RESISTORS ARE  
220 OHMS-1810 0372  
ALL RESISTORS ARE 1/2W 1%

- INSTALL ITEM ③
- MASK AS INDICATED
- LOAD SOCKETS AS INDICATED
- LOAD ITEMS ⑤ THRU ⑫  
IN TOUCHUP
- LOAD ITEMS ② THRU ④, AND ⑫, ON  
CIRCUIT SIDE IN TOUCHUP, SEE  
DETAIL "A".
- LOAD ITEM ⑪ BETWEEN SOCKET AND LIGHT  
EMITTING DIODE AS SHOWN IN DETAIL "B".
- CUT ONE (1) EA. OF ITEM ⑪ IN HALF AND  
INSERT BETWEEN ITEM ③ AND THE SOCKET  
AS IN DETAIL "B".
- PRETEST USING 3060 TEST SYSTEM.
- INSPECTION CRITERIA - HP STD. SECT. 410

PROCESS REVIEW  
DATE 10-21-83 BY T. V. V. V.

ITEM	QTY.	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L LONG NO.	MAT'L SPEC.
13	1	LABEL - DATE CODE	9320-5320		
12	4	POLARIZING KEY	1251-5595		
11	2	WRAP ID., 16 PIN	1200-1041		
10	1	LABEL WARR DATE CODE	7120-6830		
9	1	LIGHT EMITTING DIODE	1990-0802		
8	1	LIGHT EMITTING DIODE	1990-0776		
7	6	LIGHT EMITTING DIODE	1990-0759		
6	2	LIGHT EMITTING DIODE	1990-0899		
5	2	LIGHT EMITTING DIODE	1990-0701		
4	1	CONN RC/POST 20M	1251-5649		
3	1	CONN UTIL 4PINM	1251-3837		
2	1	CONN RC/POST 16M	1251-5648		
1	1	PCB SYS. STATUS DISP PNL	30140-60092		

PCA-SYSTEM STATUS DISPLAY PANEL ASSY DWG.	HEWLETT PACKARD
30140-60095	30140-60092
FINISH	SCALE 2:1
	D-30140-60092-1



- J1 16 PIN RIBBON CABLE CONNECTOR
- J2 20 PIN RIBBON CABLE CONNECTOR
- J3 4 PIN MATE AND LOCK CONNECTOR

DS1	DS3	DS4	DS5	DS6	DS7	DS9	DS10	DS11	DS12
DS2					DS8				

ITEM	QTY	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L SHIP. NO.	MAT'L SPEC.
		PCA-SSDP-B (SCHEMATIC)			
		NEXT ASSEMBLY			
		PURCH	SCALE		
				PART NUMBER	